

Conference Report

Partnering for Environmental Security Cooperation in Central Asia and the Caspian Basin

April 2002



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Comments pertaining to this report are invited and should be forwarded to the Center for Strategic Leadership, U.S. Army War College, Carlisle Barracks, PA 17013-5049 (electronic mail to OUTREACH-OGD@csl.carlisle.army.mil) or by calling (717) 245-3013 or DSN 242-3013. This publication and other Center for Strategic Leadership publications can be found on line at <http://carlisle-www.army.mil/usacsl/publications.htm>.

April 2002

Partnering for Environmental Security Cooperation in
Central Asia and the Caspian Basin

PREFACE



August 30, 2002

On behalf of the U. S. Central Command, the Deputy Under Secretary of Defense for Installations and Environment, the George C. Marshall European Center for Security Studies, and the U.S. Army War College, I would like to thank all concerned for their participation in the 2002 Environmental Security Conference for Central Asia.

This very successful conference series highlights our emphasis on Central Asian Environmental Security and its importance in our engagement plans. This year's conference was conducted in Chiemsee, Germany from 3-5 April 2002. The purpose of the conference was to review environmental challenges, foster resolution of these issues, and enhance interoperability, regional contingency planning, consequence management and regional stability. It resulted in the initiation of U./S. Government efforts to formalize policy on Central Asian environmental issues, determine regional Environmental Security priorities, and help improve environmental conditions in the region.

Enclosed you will find a summary of the events of the conference as well as the detailed papers and presentations of the symposium.

Respectfully,

A handwritten signature in black ink, appearing to read 'T. R. Franks', written over the printed name.

TOMMY R. FRANKS
General, U.S. Army

Partnering for Environmental Security Cooperation in
Central Asia and the Caspian Basin



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Partnering for Environmental Security Cooperation in Central Asia and the Caspian Basin

FOREWORD

“Partnering for Environmental Security Cooperation in Central Asia and the Caspian Basin” was a U.S. Central Command (USCENTCOM) conference cosponsored by the Office of the Deputy Under Secretary of Defense for Environmental Security (DUSD-ES), the Center for Strategic Leadership (CSL) of the U.S. Army War College, and the George C. Marshall European Center for Security Studies, and hosted by the Marshall Center at the Armed Forces Recreation Center, Chiemsee, Germany. This conference brought together senior military and civilian leaders from Central Asia and the Caspian Basin states, international academics, governmental and military subject matter experts, and non-governmental organizations to examine critical environmental issues that affect the security of the region.

Environmental Security cooperation in Central Asia has been important to U.S. strategy in the region. This event was the second Environmental Security conference focused on Central Asia. The first conference, entitled “Responding to Environmental Challenges in Central Asia,” was conducted at Garmisch-Partenkirchen, Germany in March 6-8, 2001. In late 2001, following the commencement of coalition military operations in the war on terrorism in Afghanistan, U.S. Central Command Deputy Commander Lieutenant General Michael DeLong stated, “The United States would not have had access to Central Asia bases to fight the war against terrorism were it not for the relationship established through environmental security programs.”

This year’s conference focused on promoting multilateral cooperation on environmental security issues and disaster relief planning. The Central Asian States have a common heritage as republics under the Soviet system and they share a legacy of environmental abuse by the Soviet military-industrial complex. Natural disasters are common in this region and are oblivious to international borders. Successful solutions to resolve these issues must be multilateral and regional in nature and involve the complex involvement of the host nation, economic and military powers, non-governmental and international organizations, and the international donor community.

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This conference made a valuable contribution to the engagement and development missions of the U.S. Central Command. It demonstrated the broad scope of environmental security issues and showed their unique value as tools of engagement for this strategically important region. Enhancing the role of the military in environmental stewardship and disaster response planning offers opportunities for the combatant commanders to engage their regional partners and to promote regional security and stability.

Professor Douglas B. Campbell
Director, Center for Strategic Leadership
U.S. Army War College

EXECUTIVE SUMMARY

“Partnering for Environmental Security in Central Asia and the Caspian Basin,” the second U.S. Central Command (USCENTCOM) Environmental Security Conference for Central Asia and the Caspian Basin, was conducted April 2-5, 2002 at Chiemsee, Germany. The Office for the Deputy Under Secretary of Defense for Installations and Environment (DUSD(I&E)), the George C. Marshall European Center for Security Studies, and the Center for Strategic Leadership of the U.S. Army War College cosponsored the event.

The conference brought together regional military and civilian leaders from Kazakhstan, Kyrgyzstan, Tajikistan, Uzbekistan, Armenia, Azerbaijan and Georgia; U.S. National Guard State Partnership Program, Department of State, the Department of Energy National Laboratories, and the USCENTCOM; international academics; and governmental, military, and non-governmental subject matter experts.

Conference objectives included: identification of national resources available for regional disaster response and consequence management; enhancement of military support to civil authorities; examination of opportunities for multi-lateral and inter-agency cooperation, to include non-governmental and international organizations; promotion of information exchange and management tools; and the strengthening of working relationships between regional government agencies.

Using moderated panels and regional plan development workshops, attendees examined environmental security challenges, identified obstacles to regional cooperation, and fostered resolution of these issues through regional contingency planning to support environmental stewardship, regional stability, interoperability, and consequence management.

OPENING REMARKS

Lieutenant General Michael P. DeLong, Deputy Commander, USCENTCOM and the Honorable Raymond F. DuBois, DUSD(I&E), welcomed conference attendees and thanked Central Asian and Caspian

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Basin participants for their nations' valuable support in the Global War on Terrorism.

Both speakers stressed the importance of the role a healthy and productive environment plays in maintaining regional stability. They reinforced the value of environmental security as a useful and non-threatening approach for achieving closer cooperation between the military and the civilian population, enhancing military support to civil authorities, and improving regional coordination of disaster response.

REGIONAL PLANNING FOR DISASTER PREVENTION AND RESPONSE

Combining and leveraging resources and knowledge enables the regional capability to prevent disasters, or to respond effectively when the need arises. Identifying the conditions necessary to establish this regional capability was the goal for the conference crisis management exercise (CMX) conducted on Days 2 and 3. In order to provide the background essential for workshop participants to conduct their discussions, a series of panels first reviewed the prior environmental security work in the region, and discussed administrative techniques, information sharing, and technologies available to assist in environmental planning in the 21st Century. This information was reinforced by discussions on the interagency, multilateral, and international cooperation and resources required to successfully address disaster induced threats to regional stability.

ENVIRONMENTAL SECURITY COOPERATION

The initial panel, Environmental Security Cooperation: Accomplishments, Objectives, & the "Road Ahead", discussed a variety of ongoing initiatives that are advancing environmental security cooperation in Central Asia. Panel moderator Rear Admiral John Jackson, Deputy Director, Plans and Policy, J5, USCENTCOM, reviewed USCENTCOM Environmental Security initiatives, emphasizing that over the past year Environmental Security has been added to the USCENTCOM Theater Security Cooperation Plan, and, in the coming year, a stand-alone USCENTCOM Environmental Security Cooperation Plan will be published.

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Another USCENTCOM initiative was a partnership with Lawrence Livermore National Laboratories (LLNL) to implement science and technology solutions in solving regional security challenges. Dr. Nina Rosenberg explained that the LLNL program known as Science and Technology to Advance Regional Security (STARS) in Central Asia, includes bilateral and multilateral collaborative projects with regional agency partners. These projects address disaster response, environmental quality, natural hazards, border security, and water resources.

For recipient states to benefit from the international donor community, it is important to employ financial and management controls that meet the requirements of multiple donors or multiple implementing agencies. Dr. Hans P. Peterson, while addressing the use of international donors and non-government organizations (NGOs) to help resolve environmental issues, set forth the following guidelines:

- Understand the problem and select a spokesperson.
- Select a lead donor and implementing agency.
- Once you have selected that lead donor and that lead implementing agency, select secondary donors and implementing agencies.
- Understand fund management and host government commitments.
- Maintain the focus of the program.

Information exchange and sharing is critical to effective regional environmental security efforts and disaster response coordination. Ms. Jackie Hux-Cain, representing the Office of the DUSD(I&E) sponsored Defense Environmental Network Information Exchange (DENIX), provided a briefing on “Keeping Up with Environmental, Safety and Occupational Health Issues Using Information Exchange Tools.” She provided a demonstration of two widely used DOD systems highlighting effective information sharing efforts and also provided training for conference participants. These web-based systems are a significant resource of environmental security information.

Information, tools, and capabilities from DENIX have been made available in the Eastern Hemisphere through the Partnership for Peace Information Management System (PIMS). By the end of 2002, all five Central Asian States, as well as the Caspian Basin states of Georgia, Armenia, and Azerbaijan will have PIMS installed and operational. PIMS facilitates the exchange of information supporting the 23 Partnership for Peace areas

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of cooperation, including civil emergency planning, crisis management, medical, and military geography among others.

REGIONAL APPRECIATION

Central Asia and the Caspian Basin are the legatees of the Russian Empire's and the former Soviet Union's shortsighted extraction economy policies. These nations face environmental challenges unlike any other region in the world. Aware of this reality, the nations of the region share a common desire to move to a new level of environmental stewardship. To share this recognition of the problems at hand, Central Asian participants complemented USCENTCOM's environmental security cooperation update by sharing their perspectives on regional environmental threats, existing national and regional disaster response planning, and regional opportunities and initiatives:

Significant environmental and disaster response issues identified include:

- The Aral Sea disaster: Agricultural exploitation of the Syr Darya and Amu Darya watersheds has resulted in the drying up of the Aral Sea and subsequent windborne distribution of toxic dust.
- Industrial contamination of the air, ground, and water.
- Radioactive contamination resulting from air, surface, and underground nuclear explosive testing.
- Aging hydroelectric plants and dams upstream of highly populated areas.
- Unstable toxic and radioactive tailing dumps leftover from heavy metal and uranium mining, extraction, and refining.
- Frequent earthquakes.
- Excessive seasonal snowmelt, rains, and mudflows.
- The danger of a collapse of the Usoi Dam, at Lake Sarez, high in the Pamir Mountains of Tajikistan.
- Poor agricultural irrigation productivity, primarily due to infrastructure deterioration.

To address these issues, each government has established a Ministry of Emergency Situations to coordinate disaster response within its territory, but they are aware that these threats are regional and beyond the capability of local resources to resolve. They acknowledged the need for

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outside assistance and funding to assist with modernization and to develop remediation projects using best worldwide practices to solve their myriad of environmental challenges.

MULTILATERAL APPROACHES TO REGIONAL DISASTER RESPONSE

Dr. Kent Butts of the U.S. Army War College addressed multilateral approaches to regional disaster response and moderated a panel that examined the military's role in supporting civil authorities and discussed the perspectives of NGOs and international organizations (IO) employed in disaster response.

In an excellent analogy to the challenges faced by the new Central Asian States, Rear Admiral Gaidos Zeibots of Latvia explained the civil military cooperation activities and structures integrated within the Total Defense System established by each of the Baltic States of Latvia, Lithuania, and Estonia. This government cooperative effort must be adaptable to accepting assistance from outside sources. Dr. Neil Joyce, M.D., of the International Medical Corps, addressed the challenge of this requirement. Following a review of the independent nature of NGOs and emphasizing the humanitarian imperative as the moral basis upon which NGOs operate, he explained the Sphere Humanitarian Charter and its Minimum Standards of Assistance in response to complex humanitarian emergencies. Complementing this presentation, Mr. Zoran Milovic, Chief of Mission, International Organization for Migration (IOM), Ashkhabad, Turkmenistan, explained the charter and operations of this non-UN intergovernmental organization and how the IOM works with governments, NGOs, IOs, and donors to support disaster relief worldwide.

INTERNATIONAL DISASTER RESPONSE RESOURCES

Knowing how the international community assists during major disasters is a critical piece of the regional response puzzle. Dr. Timur Kocoaglu of Koc University, Istanbul, Turkey began his introduction of this issue with a thought-provoking comparison of European Union and Middle Eastern models of development. He was followed by Mr. Paul Giannone of CARE USA who discussed key points of Non-governmental Organizations' relationships with the military and provided suggestions on how NGOs

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can work best with host governments and military forces in support of a response to a complex humanitarian emergency.

Drawing on his experience as an emergency response planner and implementer with the Euro-Atlantic Disaster Response Coordination Centre and the United Nations Office for the Coordination of Humanitarian Affairs (OCHA), Mr. Wolfgang Krajic addressed the importance of planning for disaster response and the challenges and obstacles frequently encountered in developing such plans. Colonel Jerry Mohr, USCENTCOM Engineer, closed out this session with a review of USCENTCOM environmental policies established and practiced by U.S. forces during Operation Enduring Freedom, the ongoing military operation against terrorism in the region. Operation Enduring Freedom environmental policy has addressed the dual objectives of ensuring the health and safety of U.S. forces and operating in a manner that protects natural resources and the environment.

U.S. INTERAGENCY PROCESSES SUPPORTING DISASTER RESPONSE

An integrated effort to address natural and manmade disasters is essential to timely response. The final panel of the conference looked at the difficult issues raised in establishing effective interagency cooperation, especially between the civilian and military branches of the government. Mr. Curtis Bowling, Assistant Deputy Under Secretary of Defense, Safety and Occupational Health, provided a review of the responsibilities of the military and the relationships between U.S. Government agencies responsible for emergency management and response.

Using the U.S. federal structure as an example for Central Asian cooperation, Mr. Norm Smith, former Director, Pennsylvania Emergency Management Agency, spoke about the integrated federal and state response to the 1979 nuclear accident at Three Mile Island, and how regional emergency preparedness has since evolved in Pennsylvania. The events of September 11, 2001 and the destabilizing effects of a manmade environmental crisis are major concerns, and have driven Pennsylvania to extend its regional emergency response planning network to include congruent Regional Counter Terrorism Task Forces.

Another example of interagency cooperation to counter environmental events that threaten regional security is the U.S. Central Command's

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Cooperative Defense Initiative (CDI). CDI is a combined effort of USCENTCOM and the Office of the Secretary of Defense. Paralleling the Department of State's counter terrorism programs, USCENTCOM closely works with host nation governments in its region. The goal of this program is to enhance deterrence against the use of weapons of mass destruction. Mr. Ronald P. Rook explained the USCENTCOM framework for Consequence Management and the initial implementation of the CDI among nations of the Gulf Cooperation Council.

Mr. Michael J. Korin of the U. S. Agency for International Development (USAID) closed out the discussion of U.S. interagency processes with a discussion of USAID's efforts to support long-term and equitable economic growth and advance U.S. foreign policy objectives. USAID is an independent federal government agency that receives overall foreign policy guidance from the Secretary of State. Since it employs agriculture and trade to advance economic growth, is active in conflict prevention, and through its Office of Foreign Disaster Assistance (OFDA) is the focal point for U.S. overseas disaster and humanitarian assistance, USAID must deal with all major U.S. government branches and agencies. Mr. Korin's presentation provided an excellent example of the value added by established interagency processes.

CRISIS MANAGEMENT EXERCISE

The Central Asia Republics are challenged by two realities – the existence of environmental conditions that would allow a serious man-made or natural environmental disaster to quickly overwhelm national response capabilities, and, though identified, a lack of resources that would allow mitigation of these conditions. Therefore, it is critical that opportunities be provided for the key disaster planners from each of the Republics to work together as often as possible. This CMX provided an excellent venue for such cooperation and resulted in a free exchange of ideas between the participants.

Divided into three workshops – two scenario-driven and one focused on regional planning – participants reviewed the national responses and discussed the parallel actions necessary throughout the region to limit the long-term environmental security impacts on their populations. They identified requirements for permanent emergency response groups, closer pre-disaster links between civilians and the military, cooperation and

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partnership with world powers, and deeper cooperation within the Central Asian region itself. Additionally, they identified the need to coordinate the actions of governments and other services at the interregional and intergovernmental levels and to resolve organizational and legal issues and regional cooperation mechanisms.

CONCLUSION

Central Asia and the Caspian Basin's unique geography ensure that natural disasters such as earthquakes and floods will occur regularly with transnational effects. Existing transnational environmental issues, predominately a legacy of the Soviet era, are a significant factor in the region's future economic vitality and the stability of the region's governments. Central Asia's governments must respond efficiently, and increasingly regionally, in consequence management to remain relevant to their populations.

The resources required to mitigate the region's environmental vulnerabilities are beyond the economies of any of the individual states, and, in most cases, exceed the regional potential. This means that the cost of technology solutions to environmental challenges will be substantially borne by the international donor community. Because these environmental security issues cross state boundaries, they should be addressed at the regional level.

FUTURE PLANS

At the conclusion of the conference, Lieutenant General DeLong challenged the attendees to develop regional environmental security priorities, propose projects to address these priorities, and work to secure resources to execute the projects. This challenge should be taken as the main guidance toward improving environmental security in Central Asia.

Meeting participants agreed to hold another regional (to include Afghanistan and Pakistan) Environmental Security Conference in September 2003. The country host and location remain to be determined.

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CHAPTER 1 - Introduction

Opening Remarks

Major General Michael J. McCarthy
USAF Retired

Opening Remarks

Lieutenant General Michael P. DeLong, USMC

Opening Remarks

Mr. Raymond DuBois

Opening Remarks

Dr. Kent Hughes Butts

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Opening Remarks

By Major General Michael J. McCarthy, USAF Retired
U.S. Deputy Director, George C. Marshall European
Center for Strategic Studies

I wish to welcome you and to thank the many people that have put this conference together, including the United States Central Command, the U.S. Army War College, the Office of the Secretary of Defense, and, of course, The George C. Marshall Center in Garmisch-Partenkirchen, Germany, which is a German American school. Some of you have attended our courses or seminars.

General DeLong, Mr. DuBois, and I were talking earlier about being Vietnam veterans. That also tells you that we are Cold War veterans. I flew B-52's. I sat in nuclear alert with a B-52, with nuclear weapons, and the targets were not in NATO. The Soviet Union and the United States were Cold War enemies, and there is no doubt in my mind that I would have gone and done my mission the same as everybody who was in the Warsaw Pact would have tried to do their mission. I think the world today is a lot better than it was 20 years ago. If somebody would have said to me that I would be in front of you, or dealing with former members of the Warsaw Pact or the Soviet Union in a friendly way discussing environmental issues and the seriousness of environmental issues, it would never have entered my radar screen. I never thought about it. So I think you have a wonderful opportunity this week to participate in a meaningful dialogue.

Last year you talked about what you are going to do, which is easy. Seminars do that really well. This year you have to focus on how you are going to do it, and where to find the money and resources and the hard work required to get it done. So as part of the Marshall Center, I would like to thank Lieutenant Colonel Wolfgang Blum and his team for doing all the work that they have done to get it together, as well as all the people in the back of the room that you see. They, too, will get this done so you can concentrate on what you are doing.

Thank you very much. I am very honored to be a part of this, and we are most honored, on behalf of the Marshall Center, to help host this conference.

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Opening Remarks

By Lieutenant General Michael P. DeLong, USMC
Deputy Commander, U.S. Central Command

First of all, welcome. To have the Central Asian states and newly independent states in a room to talk about anything is important. The work that the newly independent states and the Central Asian states have done to help the coalition, and to help the United States on this global war of terrorism, is gratifying and we are grateful for it, for all of you. All of you have contributed in some way to the global war on terrorism. Please know that I thank you, the President thanks you, the Secretary of Defense thanks you. You have done fabulous work for the right reason, and it is not done yet.



That is not why we are here today. We are here today to talk about environmental issues and environmental security. Mr. Raymond DuBois, Deputy Under Secretary for Installations and Environment, is here to represent the Department of Defense. General McCarthy is representing the Marshall Center. What hasn't been said is that the staffs of the Marshall Center and the U.S. Army War College have done most of the work preparing for this conference. We owe our thanks to all of them, too.

Our goal during this conference is to try to improve regional security and disaster response capabilities. The recent earthquakes in Afghanistan and the unfortunate loss of life there demonstrate how quickly disasters, natural or man-made, can occur. Combining and leveraging our resources and knowledge will enable all of us to respond effectively when the need arises. Environmental security is important to all of us. Pollution, radiological hazards, and resource management issues not only impact our quality of life, but can be a catalyst for future conflicts.

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Last year we learned that environmental issues affect each and every one of you in the Central Asian States. I believe this year we need to focus on the word *region* and to address the issues.

Last year we came up with a multilateral disaster response plan. This year I would like to put that plan to use during our seminars. We will see how it works. Last year you said, “OK, United States, that is fine that you talk about environmental issues. It is fine that you are here to help us, but where is the money?” What I would like to do this year, since the world now knows where Central Asia is, is to set a donor’s conference for next year to try to match donors with the Central Asian states so we can fund and help resolve some of these issues.

I think all of you will be particularly pleased by one of the presentations that is going to be given by Lawrence Livermore National Laboratories, who have some money and some ideas on how to fix something in the next couple of years.

The last point I would like to bring out is, to the average American, the most important liquid in the world is oil. To the people in this room the most important liquid in the world is water. That is true today, and it will be true tomorrow. In the Central Asian states, water is probably the most important liquid.

Opening Remarks

By Mr. Raymond DuBois

Deputy Under Secretary of Defense for Installations and Environment

The last time I was in Germany was September 11, 2001. The Secretary of Defense called me back to Washington to meet with the President on September 12th. I returned to the Pentagon and it smelled of fire. It smelled of death. It reminded me of that day in late June of 1969, as I was leaving Vietnam, flying from Cam Ranh Bay. I thought I had left combat behind, and yet combat was a mere two corridors away from my office in the Pentagon.

I commend all of you, your colleagues and countrymen who participated in last year's symposium where your attention was focused on the importance of crisis management. The conference continues with disaster and response planning this year. What an appropriate and necessary focus, as evidenced by the political, economic, and military uncertainty in the world today. On behalf of Secretary Donald Rumsfeld, Secretary of Defense for the United States, I wish to thank the ministers of defense in the Central Asian countries represented here today for your participation. Symposia of this nature will bring us all closer together, strengthen the interaction between our countries and help us to better support one another in this very important work of disaster and response.

We all concentrate on disaster and response these days. We are constantly reminded of September 11th, and the smoke and flames at the World Trade Center in New York and the Pentagon in Washington, DC. For the first time in 60 years, war was brought to the soil of the United States. But these attacks were not just against Americans. They were an attack on the World. Citizens from more than 80 countries died that day, innocent men and women and children from across the globe. The President of the United States, George W. Bush and the entire world realized the threat of terrorist attacks on any of our homelands is something that we must take very seriously. This is a concern that we all share. For the first time in the history of NATO, Article V was invoked, not to protect a European country, but to band together to protect America and the alliance. Within hours of

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that attack, coalitions from many countries, many countries represented here today, joined within hours, certainly within days, to fight the global threat on terrorism. Today 68 nations are supporting the global war on terrorism, and 17 of those nations have deployed more than 17,000 troops to the U.S. Central Command's region of responsibility.

This broad-based effort will take time and every nation's help to provide vital intelligence, personnel, equipment, and other assets and resources for use on the ground, air, and sea to help us win this war on terrorism. Success in this war would not be possible without teamwork, everyone involved. Again, on behalf of Secretary Rumsfeld, I want to thank the Central Asian countries that are here today, Uzbekistan, Kazakhstan, Turkmenistan, Kyrgyzstan, and Tajikistan. On behalf of the American people I want to thank you, the representatives of those countries, for your support for overflights and humanitarian aid, and support to the Afghan refugees. The world, not just my country, thanks you for your continued support in the war on terrorism, and especially on the war on hunger as we work to feed the thousands of Afghan refugees.

General DeLong spoke of the importance of oil and the paramount importance of water, not just water of any kind, but safe drinking water. We are all contributing to that effort. Disaster response and consequence management are words that are no doubt used in various courses at the Marshall Center and the Army War College. The terms are used to describe how one responds, how one organizes, and how one trains to respond in a crisis.

In the United States local firefighters, police, and emergency response teams from cities and towns and villages constitute what we call the first responders. The Active Duty United States Military is not the first responder. In significant crisis, however, the American Armed Forces provide highly skilled personnel and equipment that reinforces the first responders to a crisis event. Active Duty United States Military, as well as the Reserves and the National Guard, have within their units uniformed men and women specially trained in a wide variety of skills with respect to disaster response.

The best way to describe how the military can provide support in a crisis is to provide some of the examples of how our military responded during those first few hours, and days, and weeks in New York and in Washington, DC on September 11th. The first visible sign of military support was Air

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Force fighter jets flying overhead, dispatched on combat air patrols over the Nation's major cities. At the local level, military helicopters were used for observation, reconnaissance support missions, and transportation of meals, drinking water, and other supplies to rescue crews where streets were either closed or jammed and the cars left a trail of chaos. The destruction of the Twin Towers of the World Trade Center cut through normal lines of communication. Military vehicles and personnel were deployed to set up temporary communication stations with tactical operation centers. The thirty-seven foot tractor-trailers are designed to function as a field office for a staff of 38 people. Also deployed were rapid response vehicles, a self-contained mobile command and control center equipped with communications and computer gear to support a staff of seven personnel.

Military personnel from all branches of the service worked both on the scene and behind the scene to assist in the rescue recovery operations, to relieve local fire fighters and local emergency response teams from the exhausting task of search and rescue. Soldiers from combat engineering and construction units are trained on how to shore up and stabilize rubble so rescuers can dig deeper into the pile of debris and search for casualties. Military personnel in boats were used to evacuate people across the Hudson River, away from Ground Zero in New York City, the location of the Twin Towers. Specially trained military personnel assisted in the search for victims using K-9 search and rescue teams. Other military teams monitored air quality conditions at both the World Trade Center and the Pentagon.

These are just a few examples of the military's role in the 9/11 disaster response. These men and women, both civilian first responders and the military, did their jobs well. They are examples of what we are proud to call selfless service. But they did their jobs well because of proper planning, coordination, and training. Now, perhaps most pertinent to our gathering today is, how do we deal with transnational response?

Coordinating disaster response nationally is a great challenge. However, coordinating transnationally is a much greater one. Terrorist attacks, famine, droughts, and shifting economies do not recognize countries' borders, ushering into all of our lives devastating situations. Our ability to work together enables us to better plan, train and to be better prepared, to respond quickly and effectively to disasters to save lives, minimize damage, and help bring order from what is often chaos, even today in the aftermath of the earthquake, or as General DeLong just reminded me, earthquakes plural,

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in Nahrin, Afghanistan. Because of the relationships, and the planning, and the organization, and the military entities we were able together to help the Afghan people, to provide secure roads, environments, and land bridges so that meaningful amounts of humanitarian aid could be brought to those in need.

The environment is an important ingredient to National Security. My responsibility is to manage and to oversee our military installations that are the real property assets as the United States Department of Defense, which cover some 29 million acres, an area in excess of the size of the state of Pennsylvania. But with respect to installations, the other half of the equation is the environment--the environment at large. I believe that to help protect people and improve our environmental security we have got to subscribe, this is true about my country and I would hope true about yours, too, to three specific principles.

First, a healthy and productive environment is a fundamental component of national power. Second, pollution is inherently wasteful of the limited national resources and our treasured cultural resources. And third, environmental stewardship is the foundation for building healthier and stronger communities and thereby the basis of a stronger nation. Without clean air, clean water, and productive land any society has few resources to help its country thrive, grow, and become stronger. With a secure environment there is clean water to drink, productive land to cultivate, and the people's basic needs are met.

In the United States we worked very hard attempting to accomplish this for more than 30 years. This year is the 30th anniversary of the passage by our Congress of the Clean Water Act. We, especially in the military, have worked hard to rectify our past mistakes in environmental protection. We continue to work today using a proactive strategy to enhance our environment and, thus, our national power. Environmental stewardship through effective conservation of our natural and cultural resources is a key element of our environmental security strategy. We have learned that we must be ever vigilant of environmental resources so that we may preserve our national power.

Preventing pollution is also just good business. Preventing pollution before it starts reduces a potential future expense that we will have to pay at some later time. It reduces waste and the associated disposal problems.

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By cleaning up the past pollution and preventing future pollution, the Department of Defense recognizes its obligation to be a good steward and a good neighbor to the communities in which we live, train, and from which we deploy. We have learned that by working as partners, internationally, we collectively leverage our expertise and resources together. As an international team, we are stronger. We are more able to help one another sustain our environments, reduce our wastes, and operate under the principles of sound environmental stewardship.

I think it is fair to say since September 11th there has been a renewed sense of purpose and determination. We are asking ourselves, how what each of us does is relevant to the safety and defense of all people. Together our work on environmental security issues and disaster response is relevant today and will be of even greater value tomorrow, when we will no doubt face another crisis where coordinated efforts will be needed to successfully deal with it.

This conference is one of the few opportunities to bring together people like you from the military, civilian, and non-governmental organizations to address regional environmental security challenges. As General DeLong said, *regional* is a key word today. Now as you work this conference over the next several days, blending together your talents, skills, expertise, and creativity, you will move all of us closer to a world that is better prepared to face these environmental security challenges.

Our theme today, 'Disaster and Response,' is an important one, and please allow me a personal digression. The date for my parent's generation that they never forgot was December 7, 1941. Admittedly an American tragedy, but also an American awakening that thrust my country into a World War already ongoing. My generation will never forget a faithful day in November 1963 when President Kennedy was assassinated. Now, September 11, 2001, is another American awakening, once again thrusting my country into arguably another world war. Like 1941, 60 years prior, we are joining forces, once more, with a coalition of nations, your countries, to defeat terrorism on an international scale. And defeat it, we must. Victory together is the only option. For if we do not inflict terror into the heart of this insidious enemy, we will surely live in fear for all of us, for all free people. No free people can so endure.

Opening Remarks

By Dr. Kent Hughes Butts

Director, National Security Issues Branch,
Center for Strategic Leadership
United States Army War College

On behalf of the Commandant of the Army War College, Major General Robert Ivany, and my colleagues from the Army War College, I would like to state our appreciation for the opportunity to co-sponsor this valuable Environmental Security Conference, to work with our good friends at the George C. Marshall Center and to support the regional objectives of the U.S. Central Command and the Department of Defense. We have been looking forward to this year's conference, not just because it allows us to renew our efforts to address the common environmental problems that threaten the security of the region, but because it offers us the opportunity to renew the friendships with our Caspian Basin colleagues that we began at last year's conference.

In the last year, our regional friends have cooperated with the United States and the U.S. Central Command in the war on terrorism, but there are other significant threats to regional security on which our militaries need to cooperate. These threats are environmental in nature, and they have the potential to rob the people of the region of their health, their agricultural land, the fresh water resources necessary to sustain their country's economies, and in turn, the stability of the region. As they have with other defense threats, our militaries have an important role to play in fighting the environmental enemy. By undertaking this mission, the military brings unique skills to the fight. They provide essential support to civilian authority, which is usually technically expert, but lacking in manpower, transportation, and critical resources. But perhaps more important, the environmental security mission is an opportunity for the military to demonstrate to the people that their government and the military care for their welfare, and that words to the contrary from radical groups are untrue.

Environmental Security is a powerful tool of governmental legitimacy that has enhanced the cooperation between our militaries. The Preventive

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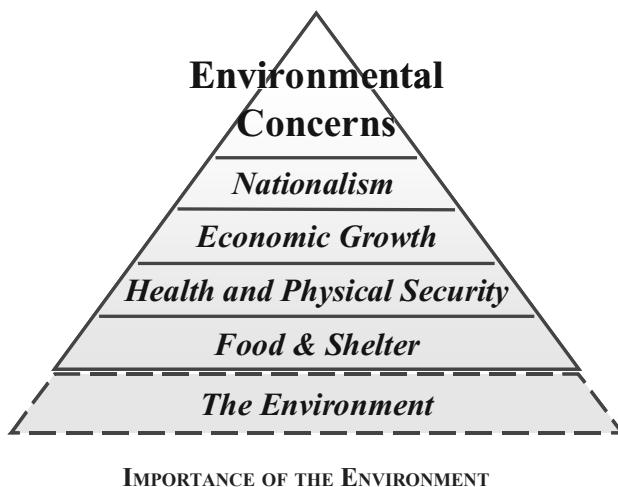
Defense Strategy of former Secretary of Defense Perry underpins much of the overseas activities of our military in the last decade. We recognize that we need to promote trust, stability, and democratic reform to prevent the conditions for conflict and build the conditions for peace. This approach allows the military to shape the security environment, to be prepared for natural disasters and other issues that threaten our security, and to be able to respond to these threats in support of civilian authority. This idea underpins the basis for the current security cooperation strategies that are crafted by our regional combatant commanders and support our national security strategy objectives.

National interests turn on regional stability. Environmental issues such as resource access and quality are now recognized as major variables in regional instability and conflict, exacerbating tensions from resulting religious, ethnic, and other local differences such as socioeconomic disparities between rural and urban areas, rapid economic development, and border disputes. However, environmental issues may also promote regional stability as confidence building measures, creating opportunities for communication and cooperation between regional states that might, in other ways, be antagonists. They offer a viable new option for preventive diplomacy and the combatant commands' security cooperation strategies. Simply put, environmental issues left untended will undermine our governments and promote instability. Yet these same issues offer a reason militaries work together, support civil authority, and demonstrate the legitimacy of a government.

Environmental Security is useful in two ways. Environmental issues may be used to build confidence and trust, or to resolve conflict. Often times, issues spring from competition for scarce resources. But there are also commonly shared environmental problems; frequently environmental problems do not respect political borders. Floods do not stop at the border between one country and the next, nor does air pollution, or the particles of effluent from the dry Aral Sea lakebed. These are regional problems that must be addressed in a multilateral fashion if they are going to be resolved successfully. Thus, resolving Environmental Security issues may promote communication and confidence building.

Environmental Security has many advantages: it is non-threatening, it transcends existing tensions when countries can cooperate on a mutual problem, it affects all countries, it is an appropriate military role that must

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deal with security, and it is generally low cost. The military is often in a strong position to support another governmental organization.

Environmental Security promotes international and interagency cooperation. The environment typically is the last priority when governments are faced with demands for food and shelter, or where physical security issues compete with requirements for economic growth and sustainability. This can be compounded by a competing need to promote a feeling of nationalism in countries that have multiple groups that do not necessarily think of themselves as part of the country. However, the environment underpins a government's ability to address all of these issues and deserves a high level priority. It should be one of the first issues addressed and not left until last, and it should be a mission of all the elements of national power: economic, political, informational, and military.

The military has the opportunity to contribute mightily to a government's war on environmental issues that create poverty, promote dissent, and undermine legitimacy of the government. The military can help in this mission. It provides good communications. It is always present on the frontier and in border areas where it is difficult for the government to project its authority and demonstrate its concern for the people. It usually has tremendous transportation assets relative to other parts of our government.

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It has technical expertise and a natural security mission; the military is prepared for crisis.

I appreciate the opportunity to speak to you this morning about this topic. We have many other opportunities and excellent speakers who will be here this week. Please use this opportunity to seek out the subject matter experts that are here and ask them for their thoughts on how we may best work together in a multilateral fashion to address these common environmental problems and demonstrate military support to civil authority. Thank you very much.

CHAPTER 2 - Environmental Security Cooperation: Accomplishments, Objectives, and the Road Ahead

*Panel Moderated by
Rear Admiral John A. Jackson*

*Science and Technology to Advance Regional
Security in Central Asia*

Dr. Nina Rosenberg

*Using International Donors and NGOs to Help
Resolve Environmental Issues in Central Asia*

Dr. Hans P. Peterson

Information Exchange Tools

Ms. Jackie Hux Cain

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Introduction

Rear Admiral John A. Jackson, USNR

Deputy Director, Plans and Policy (J5), U.S. Central Command

Welcome to the 2002 Central Asian States Environmental Security Conference. This year's Environmental Security conference is the next logical step in a progression of seminars to engage countries in the region on Environmental Security and the military's role in it. The first seminar of this kind for USCENTCOM was held in Oman in April 2000.

The continuing intensification of transportation of gas and oil in these regions raises the potential for serious impact on the environment, especially on vulnerable marine and coastal, as well as major river basin, ecosystems. Potential pollution of water reservoirs, rivers, and the Caspian Sea must be considered in a transboundary context. This is especially so, as many rivers are important to the region as drinking water sources. This situation requires that the regional governments conduct risk assessments and develop contingency plans to respond to accidents and natural disasters.

In 2001, the Central Asian States Environmental Security Conference was developed with the idea of using this topic as a way to further our engagement with countries in the region and to get them to discuss subjects of mutual concern. Cosponsors with USCENTCOM are the Office of the Deputy Under Secretary of Defense for Environmental Security, the Marshall Center, and the Center for Strategic Leadership of the United States Army War College.

The first panel for this year's conference will state from the outset that we are interested in more than talking about environmental problems in Central Asia that have security implications. As a group, we have been taking action to correct the problems, minimize the impact of environmental disasters, and improve regional stability through environmental security.

First I would like to summarize USCENTCOM's activities to address Central Asian Environmental Security. We have included Environmental Security in our Theater Security Cooperation Plan and intend to generate a stand-alone Environmental Security Cooperation Plan. This document will detail our plans to conduct environmentally related military to military

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contacts. We have established a partnership with Lawrence Livermore National Laboratory in order to ensure the projects in Central Asia are in concert with our own theater engagement plans. Our top Environmental Security effort last year was the 2001 Environmental Security Conference.

The 2001 Environmental Security Conference was held March 6-8, 2001, at the Hotel Dorint in Garmisch-Partenkirchen, Germany, under the auspices of the Marshal Center. The accommodations and facilities were excellent and quite comparable to those that you are enjoying here at the Armed Forces Recreation Center Chiemsee.

The 2001 conference brought together senior military and civilian leaders for the Central Asian and Caspian Basin states, international academics, the private sector, governmental and military subject matter experts, and non-governmental organizations to examine critical environmental issues of common interest. The main objectives of the 2001 conference were to:

- Clarify how environmental issues are a key element to the security of the region, with the potential to either create tensions or promote cooperation
- Identify major regional environmental challenges
- Demonstrate how the military's environmental security responsibilities promote regional stability
- Explore areas for military regional cooperation
- Identify other activities that promote regional cooperation and enhance peaceful engagement

There were a total of 72 participants, including 23 from the Central Asian States. Because we concentrated on water issues, we also invited other Caspian Basin countries to participate as observers. All component commanders of U.S. Central Command were also represented.

Here are the conclusions we reached last year.

- Environmental problems are already causing tensions between Central Asian nations.
- A nation's military priorities should include protection of its people from environmental threats.
- Multinational cooperation will be much more effective in responding to environmental incidents in the Caspian region.

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- Environmental remediation and sustainable development are more difficult to achieve in Central Asia than in other parts of the developed world.

There are tensions in the region due to control of water rights on the Syr Darya and Amu Darya Rivers. Responsibilities for hazardous waste cleanup also has been an issue. Several of the Central Asian States have begun including environmental training for their military forces. They have also started planning for the use of the military in environmental incident response. The 2001 conference also showed many examples of how multi-national response to environmental catastrophes is more effective than simply unilateral response. One memorable example, in case study, was the 1989 Exxon Valdez oil spill and cleanup in Alaska. Finally, it was concluded that differing national interest and economies make environmental remediation particularly difficult in Central Asia.

The 2001 Environmental Security Conference was considered a great success and included:

- Identification of the environmental issues in Central Asia
- Attendance by all five Central Asian States
- Great interaction among participants
- Allowance for bilateral and multilateral engagement
- Provided guidepost for follow-on events

All of the major environmental issues were identified in the 2001 conference, including water resources, radioactive waste sites, biological weapons site remnants, Aral Sea dessication, and Caspian Sea pollution among others. The conference facilitated great discussion groups with a good discussion of the problems among the participant countries and neighboring regions.

Lessons from the 2001 conference help participating organizations like the Lawrence Livermore National Laboratory and U.S. Central Command initiate new projects to deal with environmental issues. Among these was a survey of several uranium tailing sites, toxic retention pools, and watershed analysis. Finally, the 2001 conference gave us a sense of direction for planning for follow-on events.

In addition to the efforts of USCENTCOM to initiate its own Environmental Theater Engagement Plan, we have also fostered

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Environmental Security in Central Asia with several other organizations. Following my presentation I will introduce one of our key partners in addressing environmental security in Central Asia. The Lawrence Livermore National Laboratory has recently been conducting activities supporting Environmental Security in Central Asia. Dr. Nina Rosenberg will describe their outstanding initiatives. Another area where some great work has taken place is through international and non-governmental organizations. Dr. Pat Peterson will introduce you to ways to involve international donors and non-governmental organizations to resolve environmental issues. Finally, Mrs. Jackie Hux Cain, from Technology Team Incorporated, will describe the Partnership for Peace Information Management System (PIMS) and the Defense Environmental Network Information Exchange (DENIX).

Now we come to the road ahead. Our challenge this year and into the future will be to follow through with the lessons learned from both the 2001 conference and this 2002 conference. The road will require us to move from identifying the problems to producing solutions to solve them. This year's Environmental Security Conference is the next step in that long road. However, ultimate success for environmental security in the region will depend on the Central Asian nations taking ownership of this process and beginning to formulate national and regional plans to address shared environmental issues. Depending on the success of this conference, U.S. Central Command intends to expand our Environmental Security program. Additionally, we hope to broaden our Environmental Engagement in Central Asia by teaming with various agencies to directly address Central Asian Environmental Security concerns.

Science and Technology to Advance Regional Security in Central Asia

Dr. Nina Rosenberg

Lawrence Livermore National Laboratory

I would like to describe a program that we refer to as Science and Technology to Advance Regional Security (STARS) in Central Asia. It is a program that is based on cooperative, bilateral, and multilateral science and technology projects. It is our premise that such cooperative projects provide an opportunity for engagement while addressing real problems that could otherwise lead to destabilizing tensions in the region. The STARS program directly supports USCENTCOM's activities and objectives in Environmental Security. In fact, we think that STARS is a great vehicle for implementing and amplifying USCENTCOM's Environmental Security objectives and activities. We are very grateful and very pleased to have General DeLong's support in this matter.

As I briefly describe the program, let me stress again that it is a cooperative program. We would like to get input, suggestions, and feedback from the Central Asians here today so we can move forward together.

The timing is excellent for this program. Today there is an increased awareness in the United States of the strategic importance of Central Asia. My colleagues and I at Lawrence Livermore National Laboratory (LLNL) began a STARS effort in Central Asia in mid-2000. When we initially tried to try to get interest and support for this program, we often started by getting out a map and pointing out Central Asia. In the recent months when we have been talking to potential sponsors in Washington, there has been a lot more interest.

My colleague, Richard Knapp, and I went to Kazakhstan in 2000 to listen and learn about the problems in the region. The first step in our phased approach to this program is to go to the country, talk to the people, and try to identify the problems, the priorities, and importantly, which individuals with whom to talk. Who are the people with whom we should work? We meet with government institutions, people from government, people from NGOs

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(non-government organizations), and people from scientific academic organizations. Lawrence Livermore staff has also visited Kyrgyzstan and Uzbekistan.

We have received strong support and encouragement from the United States Government recently for this program, which we hope to soon translate into monetary support. On February 14, 2002, Lawrence Livermore National Laboratory held an education workshop for members of Congress on why regional security in Central Asia is so important, what a cooperative science and technology program might look like, and why such a program is important to do now. Former USCENTCOM Commander General Anthony Zinni, who most people in this room know has been a strong supporter of Environmental Security, was our keynote speaker. We have the strong support of Congressman Curt Weldon, of Pennsylvania. He is a Republican who serves on the House Armed Services Committee. We also have the support of our local Congresswoman, Ellen Tauscher, Democrat, of California. They are working, right now, to develop the funding mechanisms. We are asking for several million dollars to start a program to fund these projects. Nothing is definite yet, but we are hopeful that we are going to be able to get some serious support for this program. To date, Lawrence Livermore has been investing its own internal funds to support our projects in the region because we believe strongly that it is part of our global security mission. We have worked on the STARS program, not only in Central Asia, but also in other regions of the world of strategic interest to the United States, such as the Middle East.

Let me start with some of the concepts behind STARS, Science and Technology to Advance Regional Security. It is our premise that such collaborations can contribute to regional security by addressing real problems that reduce environmental stresses that can lead to regional tensions. We also have some other objectives: helping to reduce illicit smuggling of weapons and drugs, promoting education and welfare in the local population, and providing opportunities for engagement.

Again, this directly supports USCENTCOM's objectives and activities for engagement based on Environmental Security. We believe that LLNL's combination of science and technology expertise, first-hand knowledge about the region, and long history of involvement with national security matters makes it an excellent partner for USCENTCOM.

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What kind of projects are we discussing? First and most importantly, these are collaborative projects. We are not talking about an aid program. We are talking about projects on which we work together in a cooperative manner.

Second, these are science and technology-based projects. This is apolitical. We are not talking about the political and activism parts of environmental issues. We are talking very practically about applying science and technology solutions to address problems.

Third, the projects must involve an organization from the United States. It does not have to be Lawrence Livermore. There are other agencies and universities that we work with as appropriate; and it must involve one or more Central Asian states. There are some projects we are talking about that are bilateral and some that are regional, multilateral.

Finally, projects must address the real problems in the following areas:

- Disaster response
- Environmental quality
- Natural hazards
- Border security
- Water resources

I am going to review some examples of projects in each of these areas. I will be careful to tell you which projects are ones we are actually working on now, which ones are in the proposal stage (i.e., we have developed the project and are waiting on funding to take the next step), which projects are Lawrence Livermore's, which projects belong to other organizations, and which projects are just suggestions to help give you ideas of things we might want to do together.

Let us start with **Disaster Response** because that is the main focus of this workshop. It is my understanding that the U.S. National Guard is planning an International Workshop on Emergency Response (IWER), with an emphasis on urban rescue after the earthquakes in Bishkek, in the next few months. This is a great example of this type of cooperative project. I believe that all the Central Asian states are invited to participate.

Another STARS project might concern developing emergency response tools. For those of you participating in the emergency response exercises

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during this conference you will get a chance to see a web-based computer tool that Lawrence Livermore has developed, which is a way to manage information on environmental threats. It can be also be used to investigate the consequences for planning purposes of environmental threats and as an actual emergency response tool. This is just an idea, a prototype of something we could work on together.

The U.S. Department of Energy has held several workshops on oil spill response in the Caspian area. They were in Baku and Tbilisi. The littoral states around the Caspian can work together to develop regional response plans in the event of a major oil spill. What do we need to do to prepare for that? What arrangements do we have to put into place? This is another example of an activity we could work on together.

I will begin the discussion on **Environmental Quality** by describing a project to benchmark environmental pollution and biological impacts in the Caspian Sea. We have talked to a lot of people from the region and we keep hearing that a major concern is pollution in the Caspian Sea. It is hard to assess the effects of current and future activities without a good baseline, without knowing where you are today in terms of environmental indicators, and in terms of the biological health of the Caspian region. So, one activity that is a possibility is to work together with the states that border the Caspian on a benchmark study. Other government organizations such as the Caspian Environmental Program are working in this area.

Lawrence Livermore has developed proposals on three projects on radionuclide contamination that we are looking for financial support to enable us to implement them. First is assessing radioactive contamination from Soviet legacy sites. One major problem in the Central Asia states is the radioactive contamination legacy from the Soviet era. One of the areas we have concentrated on is the contamination around Semipalatinsk, which is in the northeast part of Kazakhstan. This was the Soviet Union's equivalent of the United States' Nevada nuclear test site. It is in a similar area geographically, a semi-arid type area, so it has many similarities to the U.S. site.

We have met with scientists and officials from Kazakhstan's National Nuclear Center and Kazakhstan's Ministry for Science and Education, specifically the Institute for Hydrology and Hydrophysics. We have worked out a plan to begin to work together to address the problems at Semipalatinsk that have to do with threats to water resources. We propose to assess the

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current state of chemical contamination in the area, predict the outcome of these environmental threats, and determine what we can do to mitigate the problem. We are working to develop a proposal for the International Science and Technology Center (ISTC) funding. ISTC promotes non-proliferation among former Soviet Union countries.

A second major problem that we have heard about from our Central Asian partners is waste management pollution at active industrial facilities. We have visited the Ulba Metallurgic Plant, in northern Kazakhstan. We have toured the site, talked to the Deputy Director and his staff, and learned about the nature of the problems there. We have developed a detailed plan to work together to try to understand the problems, which include leaking waste ponds on the property that are threatening nearby ground water and nearby rivers. Also, dried waste from the site threatens air quality in the area. They are dealing with the legacy of past industrial pollution. They are also



INDUSTRIAL WASTE AT AN INDUSTRIAL PLANT IN KAZAKHSTAN

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RADIOACTIVE MINE TAILINGS THREATEN WATER RESOURCES IN CENTRAL ASIA

dealing with a need to improve waste management to maintain their current operations. Ulba is a viable, important plant in Kazakhstan. We have worked with people at the National Atomic Company, Kazatomprom, in Kazakhstan and have developed a detailed plan. We are looking for funding from the World Bank for this project.

Third is the radioactive mine-tailing problem. Central Asia has been an important area for mining uranium and many other materials. Unfortunately, this means that mine-related pollution problems are common throughout the region. When uranium is mined, toxic radioactive tailings are left behind. In this part of the world, some of these tailing ponds are not very stable. Some are built right along transboundary rivers and threaten the rivers and groundwater. We have done several things to try to work together on this problem. Richard Knapp has toured with some of the people here from the Kyrgyz delegation, seeing first hand the mine tailing sites in Kyrgyzstan. We have developed a detailed proposal to pick one site, Kaji-Say, near Lake Issyk-Kul, and to use that as a demonstration area, to implement some mitigation strategies and deal with the problem before it becomes a threat

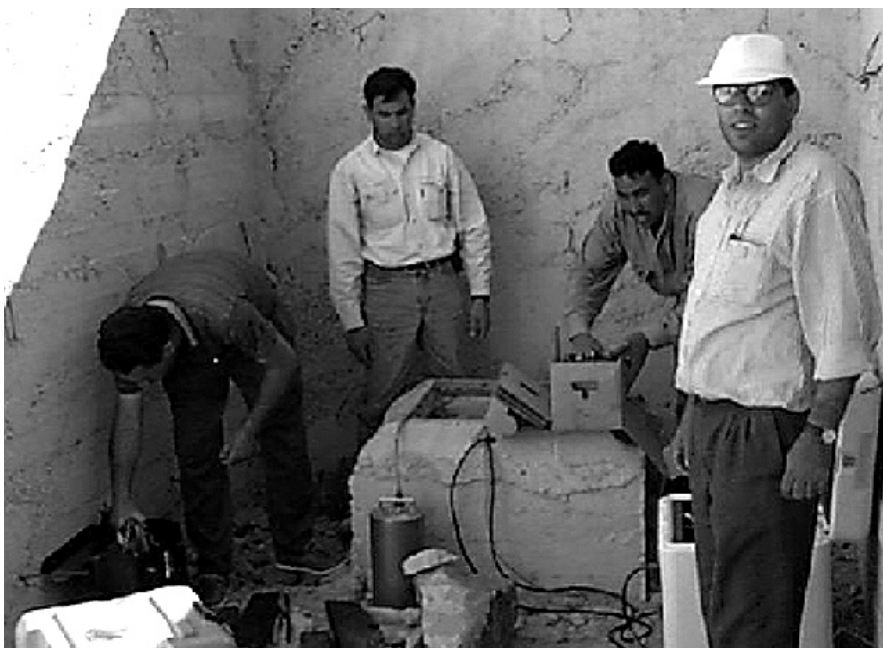
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to Lake Issyk-Kul. If we are successful, we could then use these strategies elsewhere. This is a proposal now at our U.S. State Department.

We have also talked about conducting regional technical workshops to share information on our progress with these programs. We recently worked together with a colleague of ours from Kazatomprom to write a technical paper on the mine-tailing problem in Central Asia. Our colleague traveled from Kazakhstan, in January 2002, to present with us the paper at a technical conference in Denver, Colorado. We participated in the conference to learn more about the state of the art on mine tailings.

Having talked about disaster response, let me now talk about planning and mitigating **Natural Hazards** ahead of time. We have worked in several parts of the world improving seismic monitoring networks. I am sure that you appreciate and understand that seismic activity is, by definition, a regional problem.

This picture was taken in Jordan. These are Jordanian scientists installing seismic networks. The photograph was taken by a Lawrence Livermore



INSTALLING A SEISMIC MONITORING STATION

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person who traveled to the region to help install these monitors. This project was funded on a programmatic project from the Department of Energy.

Floods are common in Central Asia as a result of snowmelt and runoff in mountainous areas. This, too, sounds like it is a good topic to think about, and one of the exercises of this conference concerns a possible flood from Lake Sarez in Tajikistan.

Border Security is not traditionally an area you think of as Environmental Security, but it is related. Lawrence Livermore has had several funded projects in Uzbekistan on the issue of smuggling, such as deterring the smuggling of nuclear material. We have worked with government officials and scientific organizations in Uzbekistan to equip borders with pedestrian and vehicle portals that will detect radioactive material. We have also worked with our partners in Uzbekistan to upgrade their laboratory capabilities, particularly their mobile laboratory capabilities, so that if they detect a radioactive shipment that they are worried about, they can take it right to the lab and learn more about what it is. There are plans to expand this to other areas and promote workshops and technical exchanges to learn more about how to do this better.

We all know that **Water Resources** in Central Asia, water quality and water quantity, are very important. Transboundary water issues are very important. This is an area where we think there is a lot of room for cooperative projects. At Lawrence Livermore, we have done a lot of work in the southwestern and western United States; the water experts there are very familiar with arid zone and semi-arid zone hydrology. We are very familiar with assessing and remediating environmental contamination, but not only radioactivity contamination. We have talked with our counterparts in these countries and have come up with many ideas for projects.

I have emphasized action-oriented activities that involve more than just talking, but there is still a place for workshops. We held a workshop in Almaty, Kazakhstan, last May with Lawrence Livermore scientists, people from the U.S. Department of Energy, and representatives from government and academic institutions in Kazakhstan. The title of that workshop was *Radioactive Contamination of Water Resources*. We focused on developing solid proposals for real things that we could do. We had visited Kazakhstan previously and identified the different groups and people we thought we might be able to work with on this, and we invited them to the workshop. We broke into small groups and developed projects with which to move forward.

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**PARTICIPANTS AT LLNL SPONSORED TECHNICAL WORKSHOP IN
ALMATY, KAZAKHSTAN**

Some of the projects I talked about earlier were developed at this workshop. We would like to conduct future technical regional workshops on common problems.

Education is also critical. Central Asian scientists told us that they are concerned about the next generation of scientists who are currently being educated. This is consistent with our own observations of the lack of young people present at workshops, conferences, and technical visits. The scientists we have met and interacted with have all been very well trained and well educated, but they are concerned about the next generation. We could work together to provide opportunities for university students, including exchanges with the United States, and for support of conferences and training.

Having mentioned a natural hazards project we're working on in the Middle East, I'd like to mention examples of water resources STARS projects we are doing in the Middle East. Water resources are a tremendous problem in the Middle East and an opportunity for cooperation. We have cooperative projects with the Jordanians, the Israelis, and the Palestinians on water resources. We are working to transfer some of our computer simulation expertise and we are working together to improve aquifer management in that region of the world. Lawrence Livermore scientists have conducted educational demonstrations in Jordan of some simple hydrology concepts.

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We are working with one of the museums in Jordan to develop and display these educational tools. These activities, which are happening now in the Middle East, are proving to be very successful.

For our next steps with respect to STARS in Central Asia, we are working diligently on the funding issues. We all know we can talk all we want, but we need somebody to provide funds to go forward. Today, we ask for your input to this program, your ideas on what you think we should be doing. We would like to hear what you think about this concept in general, but we'd also like to talk about specific projects in which you are interested. We would also like to know the names of others with whom you think we should be talking. We are familiar with some of the major institutions and people in some of the Central Asian states but, for example, we have never been to Tajikistan; we don't know much about that country. I am hoping you can help us with that today.

We invite you to talk to any of the four of us who are going to be here throughout the rest of the week: Richard Knapp and myself from Lawrence Livermore National Laboratories, Curtis Bowling from the Department of Defense, and Lieutenant Colonel Michael Bonadonna from USCENCOM. Please talk to any of us throughout this workshop and give us your thoughts. This is a cooperative program and we need to work together.

Using International Donors and NGOs to Help Resolve Environmental Issues in Central Asia

Dr. Hans P. Peterson

International Consultant

I would like to talk about how to use international donors and non-governmental organizations (NGOs) to help resolve the environmental problems of Central Asia. This is intended to be a primer on how to use international organizations. It is not intended to be a theoretical presentation, but more of a how-to-do presentation. I want to recommend five points for Central Asian states to consider that would make them more competitive in their search for expertise and resources to fund developmental and environmental problems.

The first point I want to make is **Understand the Problem and Select a Spokesperson**. Understand the problem or issue you want solved, and select one person or one entity to be the spokesperson for that problem so international donors and NGOs know with whom to deal. Keep that entity or person in the same position until funding has been received and implementation is on the way. It is very important to keep the issue simple. One should not attempt to solve disparate problems under a single program. For example, do not try to ease the balance of payment problem with a program to resolve the instability of Lake Sarez.

Point two is **Select a Lead Donor and Implementing Agency**. Systematically select the best international donor and NGO to lead the funding and implement the program to resolve the identified problems. You should be very, very proactive at this stage. This means there is a need to understand each international organization's abilities, policies, procedures, and constraints. One way to accomplish this is, in the relevant countries, assign one person from your embassy to be solely responsible to liaise and understand relevant donors and NGOs. For example, in the United States, assign one person from your embassy to understand and liaise with the relevant U.N. organizations, with the World Bank, with the International Monetary Fund, with the United States Agency for International Development and with U.S. based NGOs. This would be the person's only job, and it should

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be reviewed as a full-time responsibility. A similar position in Europe would work with the European Union and relevant bilateral donors and European NGOs. Similarly, a position might be established in Asia with the Asian Development Bank and Japanese agencies.

This proposal might seem a little excessive but one must remember that literally thousands of families will be impacted and millions of dollars will be spent for the activities of these projects and programs. Selecting the appropriate partners is an important part of this process. The goal is to choose only one donor as a leading funding agency and one NGO or other entity as the lead implementer.

The third point is **Once you have selected that lead donor and that lead implementing agency, select secondary donors and implementing agencies.** Select other NGOs and international organizations (IOs) to supplement the activities of the lead institutions. Having more donors and more NGOs reduces the risk of loss of funding and adds to the pool of expertise the program can draw upon during implementation. However, remember that more donors also add significantly to the complexity of implementation. Thus, while three donors might be very good, five or six donors would be terrible. Be careful in this process not to lose the focus of your activity. Remember, you are in charge of this program, you have ownership of it, and you must select the other donors as well. Once the program has been funded, you begin implementation. There are a couple of points on that I want to make as well.

The next point is you should **Understand fund management and host government commitments.** Once the program is underway, be sure the funds are managed carefully. Remember, a project will lose support more quickly from improper fund management than from improper implementation. This means that somebody within the host country must clearly understand the funding agencies' requirements for bids, documentations, accounting, and audits. If necessary, request training to get this expertise. Clearly define and completely understand the required contributions of the host country. Do not agree to something that you cannot do just to make the early negotiations simple, and then have implementation fouled up because obligations are not met.

The final point I want to make is **Maintain the focus of the program.** During the implementation of the program or project, do not lose the

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focus of the activity. An unfortunate but typical pattern is for programs to have early success which then leads to a large number of donor NGO and government demands to either broaden the program beyond the original focus or to replicate early parts of an effort before the original objective of the program is achieved.

Let us use these programs now to guide actions. We'll review a brief hypothetical case study and see how these five points might guide your actions. This case study is a project to examine the problems of waterlogging and salinity in that portion of the irrigation system fed by the Amu Darya River basin. The points above that relate to pre-project implementation will be very critical. They will be discussed in some detail using this as a case study. The irrigation system includes two countries that are present at the conference today, Tajikistan and Uzbekistan, as well as Turkmenistan. Another country that is not present, Afghanistan, might be a future claimant, but at this time it is making very limited use of the waters of the Amu Darya. Since Afghanistan is not currently part of the irrigation system under consideration, we will not concern ourselves with the water rights that Afghanistan might be able to claim under international law. But we do need to be aware of this problem in the future. In this instance, meeting the concerns under point one, related to understanding the problem becomes especially critical. Specifically, there needs to be complete consensus on the problems to be addressed, the steps required to resolve these problems, and the final result desired by the user countries. This will require formalizing a level of cooperation among the three user countries in terms of efficiency of irrigation and water quality that does not currently exist. This does not mean that all problems of water sharing must be solved before action can be usefully taken. If this were the case, it might well be a decade from beginning to solving the problem. What we need to do is to determine the minimum level of cooperation needed to resolve problems of waterlogging and salinity and focus on obtaining that level now. Then, perhaps as more trust and understanding develop, cooperation might be extended to other more difficult and broader aims.

One area of collaboration that is especially relevant to user groups is the level of cooperation among the militaries of these countries involved, and maybe Russia as well. The region served by the Amu Darya is especially sensitive as it includes not only the borders of the respective user countries, but also the border with Afghanistan. In this region, the militaries in their role as defenders of national borders, are especially important. Access

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to transportation and communication between individual regions will be necessary on a regular basis if we want to deal with the irrigation system as a whole rather than as individual parts. This may require procedures among the militaries that do not currently exist.

Clearly there are significant concerns that need to be faced even to complete efforts under point one. One way to approach the situation is to find an apolitical entity that has the experience and capability to conduct an initial feasibility study. That initial study would recommend technical and social options to resolve the problems of the irrigation systems. From those recommendations could come a clear understanding of the levels of formal cooperation required, and this level, once agreed to, could become a starting point for obtaining funds to implement the proposed program. The respective user countries should have someone from their embassies review activities in countries that have faced similar problems and large scale irrigation systems to both put together a scope of work for the initial feasibility study and to identify an appropriate apolitical entity to undertake the feasibility study. Some relevant countries that come to mind include India, Pakistan, Iran, China, the United States, and maybe Egypt since the construction of the Aswan Dam. One entity that comes to mind to conduct a feasibility study is the International Water Management Institute. The International Water Management Institute is a world leader in management of large-scale irrigation systems and one of the institutions on the Consultative Group on International Agriculture Development (CGIAR). CGIAR is funded by a large consortium of donors including the World Bank, EU, USAID, and other bilateral donors. International Water Management Institute is already working in the Ferghana Valley and the Aral Sea basin. They have a regional office in Tashkent. I believe with a well scripted scope of work, funding for the feasibility study would be relatively easy to obtain provided that everyone understands that the funding for the feasibility study does not include funding for the program itself, because the user countries have not yet identified an appropriate lead donor.

In an ideal world, one result of the feasibility study would be a detailed project design document that would lead directly to a detailed identification of project inputs, commodities, technical assistance, training, and funding level. More likely, after the feasibility study is read and approved by the user countries, and after the necessary formal commitment of cooperation by the relevant countries and institutions is agreed to, the selected donor will want to make a more detailed study of levels of funding and timing

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before making a commitment. Depending upon the procedures established in the user countries to develop the scope of work and the oversight and final review of the feasibility study, the institution and individuals with authority to speak to international donors and NGOs on behalf of all three countries should have been identified and in place. This responsibility should remain in place until the project begins implementation. The time required between starting the process and having the project funded and implementation initiated is lengthy. An optimistic scenario would be between 40 and 50 months. However, this is not an excuse to delay the problem. It is critical and will continue to worsen until the new structures, drains, and management systems are in place to specifically address the issue.

A few comments on selecting the implementing agency or agencies might be useful. Ideally, a single institution, an NGO, would be the sole contractor to implement the proposed program. However, given the probable complexity of the problem, it is unlikely that a single entity will have all of the expertise and experience required. Thus a set of institutions will probably need to be selected with the proposed program dictating the necessary skills. For example, if the proposed program envisions a large amount of manual labor to be paid for primarily with food rather than cash, then a subcontractor with experience with large food for work programs should be considered. A good example of such an NGO would be Care International. Similarly, if large infrastructure would be constructed, then any one of a large number of engineering firms with international experience in the Commonwealth of Independent States (CIS) countries would be another subcontractor. There does need to be a primary or lead implementing agency. The primary contractor must be fully accountable and responsible for the program achieving its stated goals in a cost efficient and timely manner. There also needs to be a primary donor for funding. The selection of a primary donor should flow out of the initial feasibility study, which should explicitly include options for funding. To repeat an earlier point, a large number of donors reduces the risks of funding shortfalls but adds complexity to implementation. A large number of implementing agencies increases the pool of expertise but can confuse the lines of authority and accountability.

Once funding is obtained and project activities have commenced, it is necessary to consider the role of the user countries during implementation. In this regard, though one could interpret concerns for fund management as implying that the user countries must clear all actions, that is not the

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issue. The user countries need to monitor and assure themselves that the procedures meet theirs and the funding agencies' requirements for transparency, documentation, accounting, and audits. However, they should not interfere with the day-to-day activities of the program. Such interference would unnecessarily delay the project. There's a difference between micromanagement and monitoring. The user countries need to understand that difference and act accordingly. Finally, although at this time we are a long way from successful project implementation, we need to be aware that when successful implementation occurs, there will be a large number of forces that either want to climb on the bandwagon of success or want to modify the program to achieve other goals. To the extent possible, this should be avoided to help ensure that solving the problems that lead to waterlogging and salinity are resolved.

To summarize, we've examined points that Central Asian states might consider as they try to interest international donors and NGOs in the long-term problems of environmental security. Since there is competition for funds and expertise, Central Asian states need to be proactive and knowledgeable about policies, expertise, and constraints faced by potential partners. Once programs begin, Central Asian states need to be reliable partners who meet their commitments, and who will be substantially involved in ensuring the program to remain focused on achieving primary objectives.

Information Exchange Tools

Ms. Jackie Hux Cain
Technology Team Incorporated

I would like to talk about information exchange, information resources, and a system that facilitates the exchange of that information amongst our colleagues worldwide. That system is called Partnership for Peace Information Management System, or PIMS. I'm going to explain what PIMS is and I'll focus on the information areas and the capabilities that are available.

PIMS is a system designed to store, manipulate, and disseminate all types of data applicable to the Partnership for Peace (PFP) community within a dedicated, secure intranet. PIMS facilitates the collaborative development and sharing of information among participants day to day as well as through Information Technology support for conferences, workshops, and exercises.

The PIMS mission is primarily to strengthen U.S. partner relations and the Partnership for Peace program through a cooperative development effort employing dedicated communications and information technologies that establish a common infrastructure supporting both collective cost avoidance and interoperability.

PIMS has over 4600 account holders in 57 countries. Seventeen Partner Nations have been loaned PIMS equipment, (satellite terminal, server, and personal computers) providing communications among ministries, military headquarters, defense academies, and military hospitals. We also have eight partner nations who provide their own equipment.

The EUCOM area of responsibility (AOR) has 13 Partners to which PIMS suites of equipment have been loaned. The most recent installation, in April 2001, is in the Ministry of Defense in Zagreb, Croatia. The other eight partners include the three new NATO members (Poland, Hungary, and the Czech Republic) and the European neutral nations of Austria, Finland, Ireland, Sweden, and Switzerland.

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The CENTCOM AOR has four Central Asian partners with loaned PIMS equipment installed; three have local hires assigned. Armenia, Azerbaijan, and Tajikistan will be installed by June 2002.

PIMS is primarily an infrastructure put into each of your countries to facilitate communication and the exchange of information. However, I would like to focus on the information that's available on the system.

The actual PIMS website is www.pims.org. PIMS is a password-protected system. This allows partners to come in and do collaborative development and talk to each other without worrying about the general public coming into that system. We have presentations, information, conferences, and exercise information available on this site.

PIMS facilitates the 23 Partnership for Peace areas of cooperation. They include civil emergency planning, crisis management, medical, and military geography among others. The Department of Defense has added several additional areas to the 23 NATO/PFP topic areas. Of interest here is Installation and Environment. In this particular case we identify environmental, occupational health, atmospheric indicators, and safety information available for PIMS users. We do that in cooperation with the Office of the Deputy Undersecretary of Defense (Installations and Environment) and provide that information.

Within PIMS there is a key area called US DOD documents, which is provided from a system called the Defense Environmental Network Information Exchange, or DENIX. This system is for the Department of Defense and its partner countries. It provides a place for all installation and environmental information. We've partnered with the PIMS program to provide excerpts of those documents to you in the Eastern Hemisphere. We have moved some of the documents over to Belgium to allow you to obtain access to the document in a timely manner.

DENIX is very heavily used. We had 18 million hits on it last year. By partnering with PIMS we are allowing you to have access to the information in DENIX. I would like to point out we have clean up, compliance, conservation, hazardous materials, pollution prevention, and unexploded ordnance, UXO. This type of information is what we are providing you, and we would like to hear from you as to what other topics and information we should provide.

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Within PIMS we have a hazardous management site, an environmental handbook for deployment, and a disaster response and consequence management web site. We also have gateways to related topics such as this conference and last year's Environmental Security Conference. We have last year's conference proceedings online and it is viewable in Russian as well as English.

Not only does PIMS offer a vast resource of information, documents, and projects that are being co-developed with partner countries, it also provides different capabilities for the partner's use. We have an area called work groups that allows you to cooperate with your partners, whether it is within your office, with the next country, or among a larger group. We also provide a search engine and the ability to provide feedback to PIMS and DENIX. The system is free for our partners.

Today and tomorrow afternoon I will conduct two training sessions. You can learn more about the system's capabilities and establish a PIMS account, if needed. I've just touched on installations and environment. There are many other categories in PIMS that may relate to information for which you are looking.

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CHAPTER 3 - Regional Appreciation

*Panel Moderated by
Dr. Roger Kangas, George C. Marshall
European Center for Strategic Studies*

Presentation (Kazakhstan)
Colonel Adilkhan K. Kuanyshev

Presentation (Kyrgyz Republic)
Mr. Bolotobek Aidaraliev

Presentation (Tajikistan)
Colonel Shogumbek Azizbekov

Presentation (Uzbekistan)
Professor Shavkat Arifkhanov

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Presentation (Kazakhstan)

Colonel Adilkhan K. Kuanyshev

Director of the Sanitary Epidemic Division of the
Medical Support Department Ministry of Defense of Kazakhstan

As the representatives of Kazakhstan, we are very pleased to attend this representative conference. I would like to thank the conference organizers for bringing together this audience to discuss a problem of concern, not only to Central Asian countries, but also to the entire world. The establishment of partnership relations on cooperation in the area of environmental security is an issue not only for the countries where the problems exist, but for the entire region as well. For example, if we take the Caspian region we see that the interests of the five countries are closely intertwined. If we take the Aral region we see that the interests of at least two to three countries are also intertwined there. I was therefore very happy that the previous speakers are well acquainted with the problems in our country and in our Central Asian region.

In these discussions I will briefly tell you about our national potential to respond to and liquidate the aftermath of a catastrophe at the national level, and about increased military support to the civilian administration, as LtGen DeLong stated. It would be a good thing, in principle, to promote informational exchange and management of all the environmental catastrophes and disasters that could occur in Central Asia and the Caspian Basin, and to also establish working ties between our countries' representatives. While we always used to think only for ourselves and only about how to survive with our own problems, nowadays, with the assistance of the United States, we are establishing close, mutual partnership relations.

My remarks will address several issues. The first is "The Environmental Threat in the Region. Examples from Years Past." As you know, Kazakhstan was a part of the Soviet Union, and we have inherited the problems that existed in the Soviet Union. An environmental analysis shows that the negative phenomena which we inherited from the monopoly, precisely, monopoly, management of former Soviet institutions, especially the

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military-industrial complex, surpasses our notion of them. As we have found out, only a narrow circle of people was aware of these problems.

For example, Kazakhstan was the second largest republic in the Soviet Union. Because of its nature and climate, several nuclear weapons testing grounds of the former Soviet Union were located here. Nuclear bomb tests were conducted over an area of 18,000,000 hectares. This a testing ground in central Kazakhstan, a testing ground in western Kazakhstan, and, as was also just stated, the Semipalatinsk testing ground.

In addition, because Kazakhstan is very rich in raw materials, its national resources were rapidly and carelessly drained. No attention was paid to environmental pollution. If the environment was ever considered, it was only as maybe the last or second to last field development issue. Both mining and processing depleted the richest layers; the rest was abandoned. In addition, because Kazakhstan is a leader in level deposits, these deposits were also carelessly developed. With the Soviet Union's rivalry with the United States growing ever faster, only the richest deposits were developed. Of course, there was no environmental security compliance.

All this had a ruinous effect on nature's environmental equilibrium and polluted all its three branches – water, air, and land. To give a brief overview, it can be said that among the biggest polluters are non-ferrous metallurgy plants which account for more than 29% of total pollutants, as well as heat and power generators which account for 23%. Oil and gas companies in western Kazakhstan, specifically in the Caspian region, are also having a negative impact.

The government is now taking measures to lessen this negative impact, but oil and gas emissions still account for approximately 9% of all pollution.

A water facilities evaluation shows that they are being polluted although production volume in Kazakhstan has decreased. This has been especially harmful to the Irtysh River in eastern Kazakhstan, as well as to the Nura and Sherubai-Nura rivers as a result of economic development in China because these rivers flow to us from China. Water pollution remains a problem. The Central Asian region is closely interconnected and, therefore, water whose source is in the Tyan-Shan mountains flows first through Kirghizia, through Uzbekistan, and then to Kazakhstan. By the time it reaches the Aral Sea it is no longer a river but a stream. That is why, if we do not deal with this

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problem jointly, all the Central Asian countries, the drying up of the Aral Sea could cause a broader and more global catastrophe throughout the Central Asian region.

Research shows that the problem of the Aral region involves not only Kazakhstan and Uzbekistan, but also neighboring countries, including China and Russia. Therefore, it is very important to discuss this problem.

Specific forms of industrial contamination are apparent from military nuclear testing grounds and the space testing ground. Dr. Nina Rosenberg spoke about a Semipalatinsk catastrophe. Four hundred and seventy nuclear explosions were set off on that nuclear testing ground over forty years. Ninety of them were in the air, twenty-six were above ground, and three hundred and fifty-four were underground.

Although this testing ground covers a vast area, miscalculations caused the clouds of fifty-five air and land explosions and the gas fractions of sixty-nine underground explosions to go beyond the testing grounds. It is those hundred and twenty-four explosions which are responsible for the radioactive contamination of all of eastern Kazakhstan, affecting almost two million residents.

We now have a problem of which we were previously unaware – the falling of heavy Proton rockets from the Baikanur Cosmodrome, which also pollutes the environment of Kazakhstan.

I already stated that there are about sixty million hectares of land in the near-Aral area. Dr. Rosenberg's report showed how ships that once stood where there was sea are now many kilometers in sand.

Utilization and burial of radioactive waste remains an unresolved problem because uranium ore was mined over a very wide area. More than one million, two hundred thousand cubic meters were mined over an area of almost fifteen hundred hectares. The radioactive background at those uranium fields is up to three thousand milliroentgens per hour, directly endangering the population.

I would now like to speak about existing national and regional mechanisms to enhance emergency preparedness. Of course, Kazakhstan has an emergency response system. We have an Emergency Situations Agency that has adequate organs, services, material resources, and equipment to prevent and resolve emergency situations.

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A total of more than twenty thousand people currently work at the Emergency Situations Agency. Mindful of the environmental threat, the republic's government and president have taken certain measures to create an integrated rescue service whose core and backbone are formations that are multi-purpose and multi-functional units that are ever ready to carry out assignments.

For example, these permanent formations include five airmobile rescue squads, twenty-one specialized fire-fighting units, about three hundred city and district fire-fighting units, fourteen paramilitary mine rescue units, and several gas rescue and hundreds of water rescue formations.

The Agency also has local emergency units in regions, cities, and districts where there are also about two hundred emergency response units numbering close to fourteen thousand people.

In peacetime, which is especially important for me as a military man, servicemen can also be called upon to resolve major emergency situations. Our armed forces statutes state that we must assist in an emergency situation, whether on a district, regional, or national level. The Ministry of Defense can directly assign units to deal with an aftermath. Of course, these are primarily medical, engineering, and logistics units.

Our Ministry of Health is also involved in resolving major emergency situations. It has a large number of emergency medical brigades on the spot, doctor and nurse brigades, mobile anti-epidemic units, mobile surgical hospitals, and infectious diseases hospitals. A disaster medicine center has been established and there are eight territorial and two regional disaster medicine centers. Ministry of the Interior forces can also be called upon to resolve emergency situations. In 2001 – speakers mentioned this just now – the management and arrangement of cooperation between these services is improving following meetings and conferences headed by the United States.

A national crisis center has been created in the Emergency Situations Agency structure to improve rescue forces and resources management, and the information reception and processing service, and to transition to a single dispatch response service for the country, such as 911 in America. Formation of analogous territorial centers has begun and the centers are already being planned.

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Given our transitional economy and economic development difficulties, the problems associated with developing and establishing Kazakhstan's rescue service are not extraordinary. Of course, the priority issue is modern means of communication, small equipment, special protective gear, and search devices for all units, especially for rescue work in areas affected by earthquakes and chemical and radioactive contamination.

For example, the government has decided to transfer sixteen Ministry of Defense helicopters to the Emergency Situations Agency. Now the questions arises: even though the helicopters have been transferred, people have to be trained to use them properly, equip them, deal with logistics and maintenance, ensure flight safety, and coordinate with air traffic control.

We also have a problem that speakers have already mentioned. Because of a lot of oil field development in the Caspian region, we need to set up a specialized marine rescue unit equipped with flotation devices, emergency and fire-fighting equipment, and oil spill clean-up equipment. During yesterday's icebreaker I met people who understand this problem in principle, and I think that in our discussions later on we will try to reach a deeper understanding of and a solution to the problem.

As a medical person representing the Ministry of Defense, and I'm a doctor by profession, I would like to point out that in our medical office at the Ministry of Defense we are already working on setting up a emergency response medical unit. The only outstanding issue is equipment, training, and mobility for the unit. That is also a problem, and I think that we will try to broach this subject in future discussions.

What type of regional initiatives and potential do we have? You know that our republic received independence only ten years ago. Measures taken since then have created, not exactly a super-modern, but to a certain extent at least some kind of national natural and industrial emergency warning and liquidation system. Its pivot is still the Kazakhstan Emergency Situations Agency. As I stated, the army, Ministry of Health, and other ministries and departments may be called upon at any time to deal with these problems.

Measures to reform the Emergency Situations Agency have already borne some fruit. For example, material losses from emergency situations have been cut by more than half over the last three years. The number of casualties has been reduced by approximately 23% over the same period. This is the result

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of concrete measures taken by the government of the Republic of Kazakhstan, the Emergency Situations Agency, and central and local governments.

The standing of the Emergency Situations Agency has made it possible to establish wide-ranging international cooperation to safeguard against natural and industrial emergency situations and, of course, cooperation in civil defense. In January 1997, the Republic of Kazakhstan acceded to the Convention of the International Civil Defense Organization and ratified membership in that organization which develops and coordinates civil defense at the international level.

Kazakhstan is also an active participant in the UN entity responsible for international cooperation to safeguard against natural and industrial disasters, with the Office for the Coordination of Humanitarian Affairs, the World Health Organization, and the World Meteorological Organization, and with the High Commission for Refugees. As part of the UN International Decade for Natural Disaster Reduction, the Republic of Kazakhstan developed a natural disaster preparedness plan. Since 1996, more than sixty experts have attended various international conferences. Now we military men are



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attending the latest international conference as well as seminars, courses, and training within the NATO framework.

Kazakhstan also cooperates with Japan and the Asian Disaster Reduction Center because Kazakhstan is in an earthquake danger zone. An earthquake also destroyed Almaty almost one hundred years ago.

Kazakhstan has not remained on the sidelines with respect to Environmental Security and international aid. In 1999, Kazakhstan rendered humanitarian aid to the Turkish republic in the form of tents and medicine. In addition, our rescue unit performed certain work in Turkey. We rendered humanitarian aid to Tajikistan during the social and political conflict there, to Kyrgyzstan and Uzbekistan during the flood, to Mongolia during snowstorms and cold snaps and to the Russian Federation during earthquakes and the social and political conflict in Chechnya, as well as to several other countries.

Thank you for your attention. I will try to answer any questions during our discussions.

Presentation (Kyrgyz Republic)

Mr. Bolotobek Aidaraliev

Deputy Minister, Ministry of Ecology
and Emergency Situations, Kyrgyz Republic

On behalf of our country's delegation, allow me to thank you for your hospitality and this well-organized conference.

The previous speaker, a representative of Kazakhstan, dwelled upon the history of problems that are identical in our countries, and where these issues are similar. I therefore will not recount the history but rather deal with specific facts which are of concern to our republic and our people from an environmental standpoint.

I would also like to make note of the conference's frame of reference, its approach. We used to discuss military issues, but now we are dealing with environmental problems.

The environment is an integral part of any country's national security. This issue is therefore very relevant, and I am very pleased that Lieutenant General DeLong underscored the conference's environmental approach and that concrete environmental disaster prevention measures will be devised.

To touch briefly on our problems, the water arteries' sources are in our mountains. These water resources pass through, as has already been stated, Uzbekistan, Tajikistan, and Kazakhstan. The future environmental security of these neighboring states is dependent on the purity of those water resources. What, then, is the main problem? It is that many hydroelectric power facilities have been built on these water resources. These are the power plants and catchments that directly border on Uzbekistan and Kazakhstan.



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I would like to mention a difficult problem associated with the situation. The hydroelectric plants present an enormous threat to the entire Fergana Valley, as well as to a part of Kazakhstan. And, of course, we have been working jointly with those countries on water safety as well as the purity of our water resources. Work is underway in this area.

The second problem in our country is the same thing that the Kazakh speaker mentioned. The tailing dumps remain in our region, in the southern region and in the northern region, are many and a source of some concern with respect to Environmental Security and people's safety because they are in close contact with water resources. That is, the slightest earthquake or natural cataclysm could do a lot of damage, and the uranium waste as well as the heavy metal waste could reach the water artery, etc., that would go along the Fergana Valley, and some of it would reach the Kazakh Republic.

This is of particular concern to our government and our country, especially the president. A substantial part of the funds allocated to our department have, since last year, been used to rehabilitate and somehow secure these tailing dumps. There are problems here as well since this is a legacy of the former Soviet Union and we are currently dealing with the issue with the Russians, Uzbeks, and Kazakhs to do their part to rehabilitate the tailing dumps so that they do not present an environmental threat to the neighboring states.

To give specific examples, we have prepared a feasibility study for talks with appropriate donors that could invest and could somehow assist in achieving Environmental Security. We have already discussed this issue with Tacis. (Tacis is the European Union grant-based technical assistance program for former Soviet states.) Some progress has been made. We are receiving approximately 500,000 euros to prepare project documentation and budgets and to continue rehabilitating the tailing dumps.

We have a problem with the tailing dumps in the Issyk-Kul region, where the jewel of our area - a unique lake - is located. Certain measures need to be taken. We have worked with Russia on these issues. At the previous conference, our experts participated in discussions and these issues were raised. That is, there are ways to resolve these problems. We also discussed these problems in depth at the conference yesterday and I think that we will continue the in-depth discussion at the seminars.

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I am also interested and pleased to know that today the next phase of our seminar is going to be specific work with donors. That is, donors that will invest or provide a grant or donation are going to deal with these issues in depth. We are ready. We have feasibility studies on these issues.

Our country also has a problem with mudflows. In particular, along all the water arteries there are unprotected populated areas that are affected by mudflows and landslides. We are also working hard with the Asian Development Bank on this and have worked with the World Bank. Funds have been invested in the construction of dams to protect populated areas throughout our republic. We are working on this.

We plan to carry out earthquake aftermath liquidation exercises with the Central Command in May. In particular, a conference in Bishkek will develop specific interaction activities for all forces and resources. Neighboring countries have also shown a lot of interest. I hope that it will be successful and that we will learn major lessons there.

Our government has not remained on the sidelines regarding the events in Afghanistan. We are currently trying to send a humanitarian shipment through the UN. In particular, together with Tajikistan, our services have so far delivered 9,000 tons of cargo by truck along our mountain roads. We are now dealing with the second phase under a trilateral agreement between the Russian Ministry of Emergency Situations, the Tajik Ministry of Emergency Situations, and our Ministry. We expect to complete the humanitarian shipments in about six weeks. In particular, measures are in place to deliver humanitarian cargo by three routes – through Uzbekistan and through Turkmenistan, but the most workable route is from Osh to Khorog and on through Faizabad. This route has worked out well and proved viable, and work is going ahead in this area.

The issue of donorship and donor relations was raised here today and I made some brief comments on it. Our country is not the only one concerned about this issue. We raised the issue of the World Bank reviewing at the international level the nuances when donors provide loans in the form of subsidies. The problems which I raised exist in our country and it would also be a good thing to discuss this cooperation arrangement, the arrangement for obtaining these credits, because the credits are repayable. That is why we are not interested in simply inviting a donor but achieving no results. This is also of concern to us. At this conference we will apparently be dealing with

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this issue and we would like the conference to reflect in detail the nuances that exist.

Now a comment about our work structure. The Kyrgyzstan Ministry of the Ecology and Emergency Situations includes the Hydrometeorological Service and the Civil Defense Service, and we also have our own troops. Our structure has a monitoring department that monitors all natural and industrial matters in our country.

It is with good reason that I asked a speaker about preventive measures. I think this is not a problem just for our country; it is a problem everywhere. As the general noted, if we spend more money after the event, de facto, we invest a large amount of money, help our friends, and so on; that's a big expense. This can be illustrated by the earthquake in our country and the flood in Sudzuk. We lost vast resources and could have taken some preventive measures, and these events could have been avoided. I think that above all we would need the funds that the donors allocate, or, if any funds are invested in our country, that they be used for preventive measures and for monitoring to prevent natural disasters.

We are doing a lot of work in this area and we have achieved results in satellite monitoring with the Russians and Germans. We have satellite pictures of the entire Fergana Valley showing what natural disasters could occur under what conditions. We are also doing work in this area.

These are the main aspects that I wanted to share with you. Thank you for your attention.

Presentation (Tajikistan)

Colonel Shogumbek Azizbekov

Director, Defense of the Population Department Ministry of Emergency
Situations and Civil Defense, Tajikistan

I am very grateful for the opportunity to speak to you and to discuss the issues facing our country.

In order to elucidate natural disaster features, one needs a knowledge and understanding of Tajikistan's natural environment, which is 93% mountains and only 7% plains. Most of Tajikistan has absolute elevations of 300-7,495 meters.

The mountains have a great and varied impact on the climate that is not limited to the mountainous area itself but affects the adjacent valleys. The mountains primarily regulate the many atmospheric processes and are the reason for the vertical climate zones. Of the 70 common types of dangerous natural phenomena that do or could do considerable damage to people



and economies, most are common in Tajikistan. It is said that we have all of them, except tsunamis. However, the danger of a rupture of the Sarez Lake, which is located at the center of the very high Pamir mountain system at an altitude of 3,265 m. above sea level and has a volume of over 17 cubic km, is worse than a tsunami in catastrophic effect.

The lake was formed on February 6, 1911, during a strong nine to ten point earthquake. According to scientific data, this happens once every hundred years or so. That's the scale. Well, 91 years have gone by since that earthquake. The village of Usoi remains under pieces of huge rocks, that is why this is called the Usoi rubble, with all its residents. The resultant lake flooded one of the largest populated areas of Sarez. It was gradually submerged. That is why this lake is called Sarez, and the rubble is called the Usoi rubble.

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The water surface area is 80 sq. km. The length of the lake is 60 km. Its broadest width is 3 km.; average width is 1.44 km. The deepest depth is 500 m. and average depth is 202 m. The perimeter is 162 km. Total inflow into the lake is 1,506 million cubic m., and outflow from the lake is 1,504 million cubic m.

A potential breakout of the waters could engulf 52,000 sq. km. in Tajikistan, Afghanistan, Uzbekistan, and Turkmenistan, affecting a population of approximately five million.

Tajikistan is threatened each year by other natural phenomena such as earthquakes, mudflows, landslips, avalanches, landslides, rockslides, drought, hard frost, and other phenomena which have done major damage to the population and the country's economy in succession.

Examples are the excessive snowfall and rains in 1969, 1992, 1993, 1998, and 2002.

The Garm earthquake of 1983, the Jirgatal earthquake of 1984, the Khodjent and Badakhshan earthquakes of 1985, the Parkhar earthquake of 2000, the Badakhshan earthquake of 2001, the Ragun earthquake of 2002, and now in March almost the entire country was shaking, an average of five to six points throughout the republic.

Unfortunately, after what our republic has been through, we have very little information available. Everything has been destroyed such as seismic stations. We had a branch of the USSR Academy of Sciences Institute of Earth Physics where scientists from around the world used to work. Now there's not a sliver of it left. So even if we have an earthquake, we cannot determine where the epicenter is or how many points it measures.

Thank God that Uzbekistan is helping us in Obinsk, which is in the Moscow Region. They recently helped us to determine that the epicenter of the March 3 earthquake was 110 km. southwest of Khorog in Badakhshan in the Himalayas.

We are in dire need of practical aid from donors and other international organizations on these matters.

We are supposed to be located at the river and water sources of Central Asia, of Kazakhstan, but we have had a very severe drought over the past two years. In 2000 and in 2001, we had very severe droughts. This year, in

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addition to the drought, we had hard frost down to 60 degrees in Eastern Pamir and in Pamir itself, in several regions. Some do not believe it but the temperature got down to -60 degrees. A lot of cattle perished and both the population and the republic's economic base were severely affected.

I would like to speak briefly about the damage that natural phenomena have inflicted on us over the past five years. In 1998, damage amounted to \$67,000,000; 134 people were killed by natural phenomena; 7,148 homes were damaged; 1,726 of them completely destroyed; 12,577 were made homeless. A total of 38,490 people were affected by natural phenomena in 1998.

1999. Damage was \$14,000,000 with casualties at 33. From this 5,383 homes were damaged with 624 completely destroyed; 4,026 people were made homeless while 33,409 were affected.

2000. Damage was \$38,000,000; \$33,000,000 from drought alone. Casualties totaled three while 3,201 homes damaged by natural phenomena, 292 completely destroyed; 2,519 people were made homeless, and 19,692 were affected.

2001. Damage amounted to \$84,500,000, with \$78,000,000 coming from drought; the rest resulted from other natural phenomena. Casualties totaled 18 with 1,889 homes damaged, of which 336 were completely destroyed; 2,393 people were made homeless out of a total of 10,499 affected.

For the first three months of 2002, the damage has been \$14,200,000 with three casualties. This was the Ragun earthquake, a local earthquake in just one region. The epicenter was deep in one region. Three people perished.

Since the start of this year, 3,391 homes have been damaged, of which 238 were completely destroyed. As a result, 1,318 people were made homeless and 21,639 were affected. All this in just three months of the year.

Of the number affected since the beginning of the year, 2,736 homes were damaged by earthquake, 138 of them completely destroyed; 976 people have been left homeless by earthquakes since the beginning of the year; 20,639 suffered losses, and three persons perished. Damage could have been much greater during these years but for the efforts of the Republic of Tajikistan government and other international

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humanitarian organizations. Such is the role of preventive measures, whose significance should be underscored.

Over the course of five years, i.e. four years and three months, natural disasters have done \$214,700,000 worth of damage to the country, with the housing fund, the housing sector, accounting for \$19,600,000 of that amount. During that period 21,042 houses were damaged, 3,216 of them completely destroyed. Over those four years and three months, 22,833 people were made homeless and 123,729 were affected.

Allow me to mention our current projects. I represent the Republic of Tajikistan's Ministry of Emergency Situations and Civil Defense. Our Ministry was created just two years ago. For all intents and purposes, we are still getting organized. During the years of Soviet rule our main task was civil defense, to protect the population from Weapons of Mass Destruction. No one was dealing with natural disasters, not just in our republic but everywhere else in the Soviet Union as well. As our comrades said here, the Kazakh and Kirghiz representatives gave very good presentations; their problems are our problems. We really do have the same problems because the sources of the rivers that supply all of Central Asia with water are located in Kyrgyzstan and Tajikistan. What starts with us or passes through our countries reaches Uzbekistan, Turkmenistan, Kazakhstan, and, therefore, the Aral Sea.

The Aral Sea problem is not that of Central Asia alone but is, I think, an international problem, which is why in September 1997 the then Committee for Emergency Situations organized an international conference on the Sarez Lake. Many world-renowned scientists from all over the world attended it. After that, some slight progress was made. Almost all the Central Asian republics are currently working jointly on this issue, with Uzbekistan, Turkmenistan, Kazakhstan, and Kyrgyzstan taking part. There is a Sarez Lake intergovernmental organization operating in those republics.

The matter of a potable water supply was raised here, and there is also the matter of irrigation and power. But many issues have been raised here which our republic needs to resolve.

On the initiative of our esteemed President Rakhmonov, 2003 has been declared the year of potable water. The potable water situation in our republic is that currently only 20% of the rural population has a potable water supply; the rest are supplied by wells and surface water.

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In recent years, following the breakup of the Soviet Union, all the economic mechanisms that united us have broken down. Let's take a simple example. Cotton produced in Tajikistan used to be processed in Estonia, which is why most plants and factories are idling. The economic ties have been broken.

We do have environmental issues, as do other Central Asian countries. We still have the major problem of improper location of large industrial structures, which greatly affects the Republic of Tajikistan's environment. The building of large structures has meant that natural and industrial phenomena have been combined. About 90% of villages in a hydroelectric power plant zone usually have to be relocated. We carved out roads and towns, built and built, and now all that is being destroyed because they built but did not include any protective structures.

As a hydraulic engineer and former land improvement employee, I can tell you how we used to develop land under the five-year plans. They paid bonuses, 5,000 rubles for each hectare of land developed. Moscow did not take climatic conditions into account. So, with the prospect of five thousand rubles to develop a hectare, what did we do? We designed the development but did not include protection of facilities or populated areas. We have no protective structures. We never built them at all in the Soviet days when any large facilities were commissioned. None of our water assets have any protective structures whatsoever.

Much has been destroyed since the war, especially in the irrigation system. Each year we lose a large amount of irrigated land to waterlogging and salinization. Destruction is taking place in parallel, both natural and industrial. But industrial destruction is caused by man. We built improperly and now we ourselves are being affected.

That is why the higher water level has caused major damage such as destruction of homes and relocation of towns. We need to relocate, but where? We don't have enough space as it is. Only 7% of the country is plains.

Many organizations are working with us. Regarding irrigation issues, many of our irrigation canals and pumping stations have been destroyed. There is not enough electrical equipment to pump water to the irrigation or water supply systems, causing epidemics, especially in the summertime.

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All of this poses a problem for our republic. Thank God we have received a lot of assistance from our neighbors and international organizations. I can even list which organizations are assisting us with relocation or land development or natural disaster liquidation. I can even name the organizations, especially those that are working with the Ministry of Emergency Situations and Civil Defense.

Other republics only have a Ministry of Emergency Situations (MES), but in addition to the MES, we also have a Ministry of Natural Resources. We also work jointly with them.

Which international organizations are assisting us? Focus America, Mercy Corps, International Federation of Red Cross and Red Crescent, Shelter Now International (USA), Global Partners (USA), Counterpart International (USA), UN Office for the Coordination of Humanitarian Affairs, UN High Commission for Refugees, and other international organizations.

What are we working on with them? For example, the U.S. helped us with an early warning system for Sarez Lake. We installed sensors there. We have done public education. We have been receiving material and humanitarian aid since the natural disasters such as tents and food. These organizations have been helping our Ministry and the government of the republic.

The question was raised here that they don't know with whom to liaise in Tajikistan. Our government has an Emergency Situations Commission headed by a deputy prime minister. All activity by those organizations currently goes through this commission of the Republic of Tajikistan government, the Tajikistan government's Emergency Situations Commission.

Another issue is the Aral. Here I can cite a simple example. Compare the Central Asian republics with Israel. For example, while Israel uses 5,590 cubic meters of water annually per hectare of irrigated land, in Central Asia we use 12,807 cubic meters of water per hectare.

We are also saying that we have a water shortage, that we have problems with Sarez Lake. I can cite an example by republic. For example, Kirghizia uses 11,150 cubic meters of water annually per hectare, southern Kazakhstan—12,354 cubic meters of water, Uzbekistan—12,478 cubic meters of water, Turkmenistan—13,355 cubic meters of water, and Tajikistan—15,860 cubic

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meters of water per hectare of land. Compare: Israel - 5,590, and Tajikistan – 15,860 cubic meters of water. How is water going to reach the Aral Sea? But that's still not the right solution to the problem. The Aral Sea problem has to be resolved jointly with the world community.

Let me now address land productivity. Israel produces 50 hundredweights of cotton per hectare, but in Central Asia we average 27 hundredweights of cotton per hectare. Such is the difference in water usage and land productivity. It is not only nature that is helping – we ourselves are helping to lower our standard of living.

Regarding the fact that only 12% of the rural population has a potable water supply, 670 water mains have malfunctioned over the past few years; 30% are out of commission; 50% of all the water pipelines are virtually non-functioning.

Such is the situation in Tajikistan.

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Presentation (Uzbekistan)

Professor Shavkat Arifkhanov

Chief of the Institute of Strategic and Interregional
Studies Joint Staff of the Armed Forces,
Uzbekistan

Allow me to greet the conference hosts and my colleagues from Central Asia and the Southern Caucasus, and to thank the George Marshall Center and the U.S. Central Command as well as other organizations for the invitation to attend this representative forum on very important and current environmental security issues.

It gives me great pleasure to state that I am a graduate of the George Marshall Center. In 1999, I completed the “Leaders of the 21st Century” course and I still have very fond memories and impressions.



What is the best way to resolve the problem? If you explore the issue, scientists say, “Write an article.” Well, you write an article but the issue is still not clear. Then they say, “Better to write a book.” You write a book, but the issue is still not altogether clear. Better, they say, to “give students a lecture,” but the picture is still not clear. I think that the best thing is to come to a conference and discuss these issues as we are doing now.

General Mike DeLong stated in his welcome that environmental problems in Central Asia affect the life of everyone living in the region. I would say it is not just in the Central Asian region. Regional economic problems in Central Asia are becoming global. We live in a changing world, a geopolitically, geoeconomically, and geostrategically changing world. These are the problems of the 21st century. They are global warming,

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environmental crises, industrial disasters, water problems, nuclear waste, poverty, disease, and refugees.

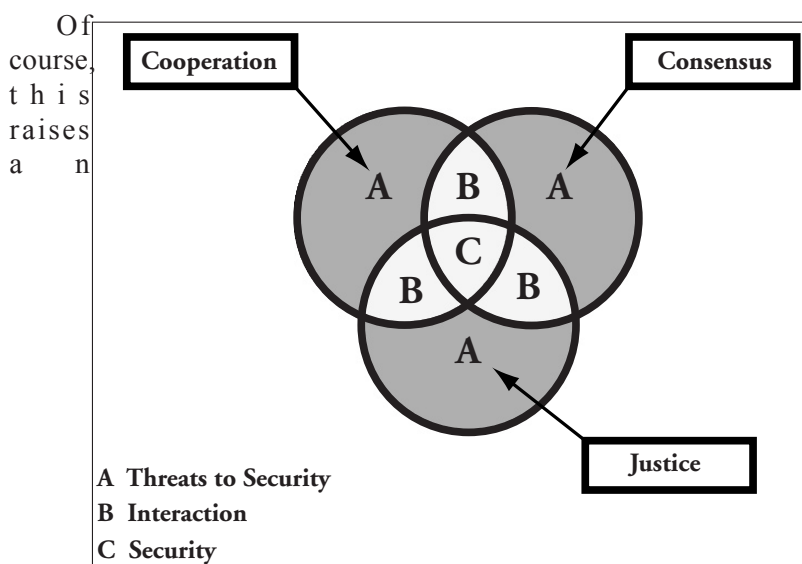
At the same time, new challenges are arising. New challenges and new security concerns include the rise in the threats of international terrorism, narco-business, and religious extremism. The honorable Mr. Dubois underscored the key word very well, a “regional” situation. In the Central Asian and Caspian Basin it could develop into a global situation.

Central Asia is like an island of security with both internal and external threats. They are the problems of the Caspian Basin, Sarez Lake, Semipalatinsk training ground, possible earthquakes, floods, nuclear waste, mudflows, and chemical water pollution. These are the common problems which my Central Asian colleagues have addressed. But these common problems are problems not only for Central Asia; they are world problems. This conference also confirms that because we are discussing these problems with our partners from the United States and other countries.

Americans say security through cooperation. While sitting here at the conference, I came up with an idea for the same kind of conceptual plan. I deal with problems of regional security, economic cooperation, geopolitics, and geoeconomics. I work at the President of Uzbekistan’s Institute of Strategic and Interregional Research. To save time, I asked one of my colleagues to draft a so-called regional security model. Let us consider the theory of security through cooperation. If you take cooperation as the foundation, on the basis of the so-called “S’s”—cooperation (sotrudnichestvo), and through cooperation to consensus (soglasie) and justice (spravedlivost), and if we cooperate and grow closer to each other on a foundation of consensus and justice, then these security concerns will actually evaporate. If these three circles become one, it is actually the ideal option for cooperation, consensus, and justice. That is, it is actually the ideal option for regional security.

But there are threats to security. Where there are shaded lines, that is interaction. Geopoliticians have a so-called game theory in which two forces, one plus one, do not equal two. One plus one equals two, but if we move through the three “S’s”—cooperation (sotrudnichestvo), consensus (soglasie) and justice (spravedlivost) – using the game theory and replacing it with so-called “synergy” (there is this interaction theory), we will get not two but three or more, many times.

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important question, where is the force? For example, in the fight against international terrorism, as we defend our countries, why are we not using force? We are deliberately replacing force with justice. There are, of course, instances in the fight against international terrorism when force must be used, as is being done in the anti-terrorism operations in Afghanistan. The world community and the Central Asian countries fully support this anti-terrorist action.

Now, if you would allow me, let me say a word about the previous moderator's question regarding donors. We have deliberately, so to speak, avoided a response because we think that the donor issue is also a very global problem. It probably needs to be examined separately, perhaps in the working groups.

Regarding donorship, there are loans, there are credits, and there are grants. Naturally, if the government guarantees a loan, it is usually granted. The International Monetary Fund, the World Bank, and other international financial organizations grant loans. The Kyrgyzstan representative correctly pointed out that there are certain conditions that the international organizations set and the conditions actually have to be met. They relate primarily to stability, to reform, and how reforms are going, etc.

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With respect to grants, there are different international funds. For example, in Central Asia there is the Soros Fund, which is American; there is the German fund, the Adenauer Fund; and regional fund offices in Central Asia, Southern Caucasus, etc. I think that the common regional problems need to be taken into consideration when giving grants. Unfortunately, this is what happens. There are representative offices, for example, in Kazakhstan, Uzbekistan, and other Central Asian republics, but in resolving global problems, one country is given a certain grant while another country is not. That is why I think that when grants are being given the common regional problems should be taken into consideration and grants should be given for those specific problems, because grants are competitive and have to be won.

The regional offices are very helpful; they give grants, aid, etc., such as it pertains to the Aral tragedy. In Central Asia, in Uzbekistan, there is a Fund for Saving the Aral Sea and various non-governmental organizations. We have the republican Ekosan fund, which holds a variety of events, conferences, etc., and makes recommendations and proposals.

We have here the representative of the State Department in Tashkent who also, not coincidentally, raised the issue of grants, that is, how these funds are granted. On the other hand, these issues need to be resolved at the governmental and inter-governmental level. The Central Asian Economic Community recently became the Central Asian Cooperation Organization. Why? It is in order to deal not only with economic problems but with environmental, humanitarian, and cultural ones as well. It is because environmental and other challenges are common problems for the entire Central Asian region.

CHAPTER 4 – Multilateral Approaches to Regional Disaster Response

*Panel Moderated by
Dr. Kent Hughes Butts*

*Civil-Military Cooperation in Latvia in Cases of
Crises and Disaster*

Rear Admiral Gaidos Zeibots

Humanitarian Response

Dr. Neil Joyce, M.D.

*Regional Response to Disaster
Induced Migration*

Mr. Zoran Milovic

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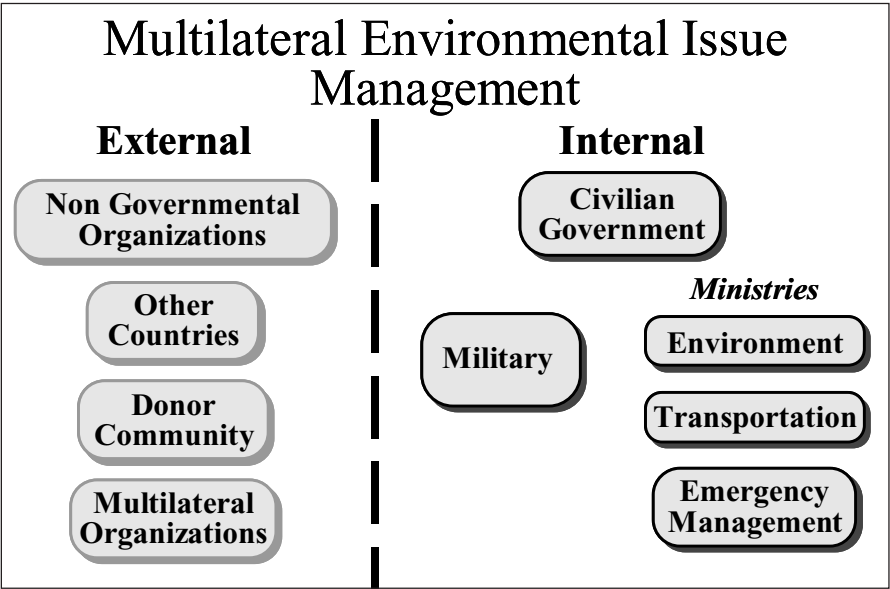
Introduction

Dr. Kent Hughes Butts, PhD.

Director, National Security Issues Branch,
Center for Strategic Leadership, U.S. Army War College

Environmental security issues are often regional and transnational in scope and they require a multilateral response to be effectively handled. We need to prepare so that the effects of disasters can be reduced. To this end, the military has an important role to play in disaster response planning.

Military forces are frequently present on the frontier and in border areas of their countries. If we communicate across a common border with another military, we can prepare for disasters and mitigate their impact by working together, before the disaster strikes. We can discuss how we handle migration flows, how we deal with potential pollutants that are released across a border, how we monitor events, and how we communicate the problem to our government and disaster response agencies. The military often has the best communications capabilities, transportation assets, and technical expertise in the country. It is well suited to shape the security environment and to



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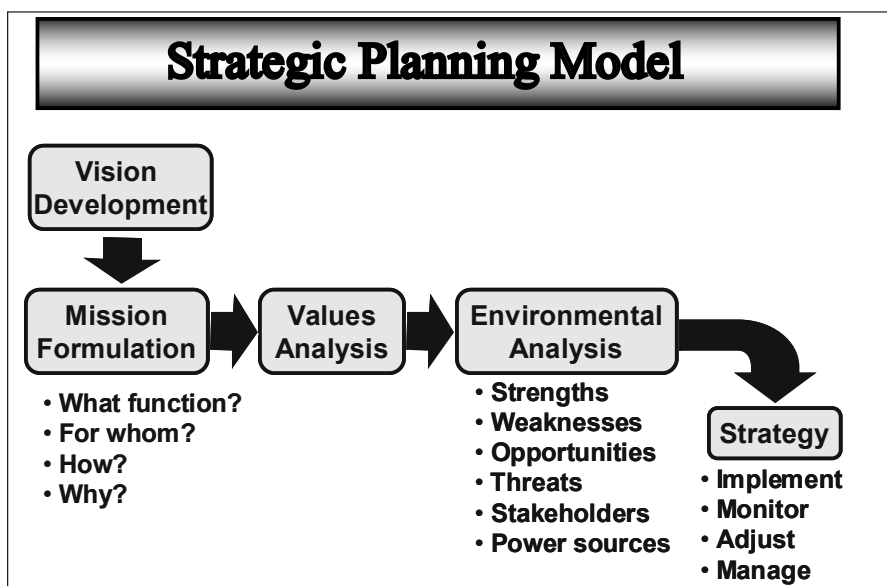
prepare to handle disasters so that when one does occurs, and they will, we will be better qualified to respond with our neighbors.

The military does not stand alone; it functions amidst internal organizations that share different cultures. The military also has to deal externally with non-governmental organizations (NGOs), other countries, the donor community, and multilateral organizations. It is a difficult role, and the military had little experience in dealing with it before the 1990's. The attitude of much of the U. S. military establishment before we went into Somalia was that we are a defense organization; we do traditional military missions, and on occasion we'll do disaster response. When we went into Somalia we thought we would go into the Port of Mogadishu, establish our logistics flow, establish command and control measures, establish communication with the warlords, and then we would deliver food to starving people. We soon discovered that CARE ran the Port of Mogadishu. If we did not let them continue to run it, support their efforts, and call upon their expertise, the operation would lose efficiency and people would die. We also found that NGOs that had been working in the region had direct lines of communication with the Somali warlords and they were, therefore, able to provide the communication to influential power sources that the U.S. military needed.

So, we learned in Somalia the value of multilateral organizations, the donor community, and the fact that the military is only part of the solution when it comes to emergency relief. We also learned that we need to work well with other countries, and these lessons have been learned and re-learned in other areas of the world as our own military has become involved in disaster response over the years. Today, we need to focus on the multilateral approach to solving some of these disaster response questions.

I'd like to briefly introduce you to a strategic planning model that we have used with other governments and with many of the people with whom we work in the senior military leadership community. When you think of multilateral cooperation, you must first focus on an important aspect, namely, who are people that need to be involved? Key elements that need to be involved in your thinking include identifying strengths and weaknesses, opportunities, threats, stakeholders, and power sources.

When we deal with strategy from a military perspective, we have an end state, strategic concepts to get there, and the resources for solving the problem. We call this *Ends, Ways, and Means*. A strategic planning model



must start with a *vision*. An example would be international cooperation to prepare for and respond to emergency situations and environmental security issues. The strategic leader's vision leads directly toward formulating the organization's mission. The military's mission is to be prepared, to work with other militaries and multinational organizations, and to be able to execute the plan when the time comes.

Next we must conduct a values analysis. Do we share the same values as all of those organizations with which we have to work? If I'm in the military, I understand military people. I understand early morning fitness, physical training, discipline, and the chain of command. I understand how to get things done in a military environment. I may not necessarily understand the values and the cultures of the other organizations in my own country. So, it is important that when we do any planning, strategic planning in particular, you ask yourself where do we share values with those with whom we must work, and where do we have different values or ways of doing things so that when we need to work together we can couch our language in terms they understand? In America, military people speak using military jargon and acronyms. Our military cannot communicate without abbreviating five word concepts with five letters. And so, other organizations with which we work literally have to have a piece of paper that explains what the military

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is saying. That is an example of a difference in culture that we may wish to work to overcome.

It is important for us to understand differences in cultures and values so that we can then do a proper analysis of our operating environment. We need to consider our organization's strengths. Do we have communications gear? Yes. Do we have seismic monitors? No. Every organization has strengths and we all have weaknesses. When we have conferences like this we have an opportunity to build trust and communication and understand the values of those with whom we must work.

We also have to recognize that there will be threats. If there are budget cuts, or if there are political crises between countries that make it difficult for us to continue communicating among ourselves, we will all do a better job if we understand those issues early on.

We also need to identify and understand who are all the stakeholders and power sources. Of particular importance, which stakeholders can make or break our mission objectives? There are always people within our organizations who need to better understand what we are doing. Perhaps it is the people with whom you work. Perhaps it is local communities that have disaster response resources. There are always people in government that can help you succeed or can prevent you from succeeding. Given the number of organizations with which our militaries must work, it is always very important to get a staff together and determine who these powerful people or organizations are; they must see the situation in our way for us to be successful in accomplishing our mission.

These analyses are part of the process that leads to the development and implementation of a successful strategy. Today, as we listen to our speakers, we have an opportunity to learn something about the values of other organizations, how they go about planning and conducting a mission, and how we can better cooperate with these organizations to be prepared so that we can shape our security environment so when the time comes we can respond in the most efficient fashion.

Civil-Military Cooperation in Latvia in Cases of Crises and Disaster

Rear Admiral Gaidos Zeibots

Latvian National Armed Forces

I would like to thank U.S. Central Command, my friends from the Army War College, and, of course, the Marshall Center who have made it possible for me to be here to talk to you about what we are doing in the Baltic region. My presentation today is not nearly as important as the opportunities this conference provides to meet and talk with each other before and after each of these official meetings. During bilateral talks, break time is sometimes more important than the official meetings.

I will be discussing some structures and activities that we are implementing in Latvia, which we started in October 1991, together in all three Baltic countries. At the outset, Latvia, Lithuania, and Estonia started to prepare, together, everything in the field of civil-military cooperation. So if in my presentation I mention Latvian structures or processes, remember that we use the same steps in all three Baltic countries.

Today threats of the cold war have dispersed, yet the nature of potential risks is more complex and challenging. External pressure and the extensive development of international political processes can destabilize the internal political situation. A great conflict between political factions and social groups within the country can lead to a crisis. External and internal risk factors are closely related as they interact and combine. This new and changing environment calls for Latvia, as for all other countries, to develop the ability to react to any threat, and for more interaction between the civil sector and the Armed Forces.

In the case of potential conflict, the cooperation between civil and military sectors is essential. This is because of the possible rapid progression of a crisis, and often the military forces are the only ones with readily available manpower and equipment.

Traditionally, civil-military cooperation is perceived as a logistics phenomenon. Yet the framework of this concept is more encompassing. Latvia uses the following approach.

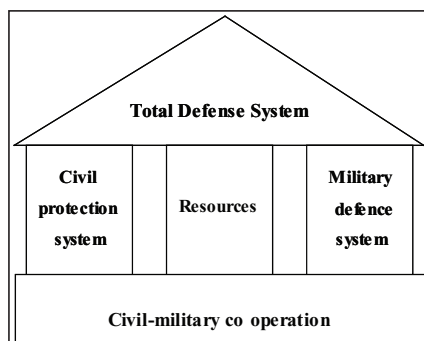
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Civil military cooperation, CIMIC, encompasses all actions and measures under any circumstances that concern the organized relationships between military forces and civil entities and individuals.

The view from the perspective of the state is that a crisis is a situation with three necessary conditions: a threat to basic values, urgency, and uncertainty. In your laws and concepts we use the word *crisis*, but the question from one common definition in our country remains open.

Latvia has chosen the Total Defense System which forces joint use of civil and military personnel, material, and technical resources. CIMIC is an integral part of the Total Defense System which interfaces components of the Total Defense System and ensures the common action, coordination, and mutual support.

In accordance with aspects mentioned above, the mobilization system is also part of the overall framework that has to be developed. In the framework of the mobilization system, civil and military institutions must perform mutually in cooperation and coordination. The mobilization concept comprises a CIMIC issue.



By their very nature, the *Zemessardze*, the National Guard in Latvia, constitutes the current Reserve forces. It is dispersed all over the country. Members of the *Zemessardze* can be found in nearly every small town or village. Over the past years, members of the *Zemessardze* have developed close relationships with local civil authorities and have provided much assistance. As a result of this relationship, today, a large number of *Zemessardze* battalions have worked out Memoranda of Understanding with local governments outlining their capabilities and establishing mutual responsibilities. Consequently, they provide assistance during natural disasters, rescue operations, assist the local government to prevent a crisis, and in some cases assist with local police functions.

Latvia's laws specially permit the *Zemessardze* to assist with these activities, which are important given the limited resources of the local authorities. *Zemessardze* explosive ordnance demolition teams have been in continuous operation for nearly nine years, systematically clearing

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known explosive contaminated areas and destroying the various munitions discovered by citizens. During World War II, Latvia experienced some of the heaviest fighting in Eastern Europe. As a result this has led to large numbers of unexploded ordnance, some of which periodically comes to the surface. Additionally, a number of the former Soviet bases still contain unexploded ordnance with which we must deal. In 10 years the *Zemessardze* destroyed more than 60,000 pieces of unexploded ammunition.

In coordination with other ministries and governmental institutions, the civil military cooperation concept is still being developed. We use the term *concept*, where in the United States you would use the word *strategy* to mean the same thing. It encompasses different CIMIC aspects enabling Latvia to strengthen its total defense system, and at the same time to be able to contribute to crisis management and peace support operations in an effective way. The CIMIC concept in this illustration shows the relationships of the military and political levels. You see there are risk analyses and there are concepts.

The civil protection system of the Republic of Latvia ensures protection of the civil population, national economy, and environment in case of an emergency situation, crisis, or war. Support from the Armed Forces in the case of an emergency situation in the civil sector can be used only if the resources of the Ministry of Interior are not sufficient. For this purpose, the Armed Forces maintain special equipment and special units.

If the emergency situation concerns only one distinct region or district, this simplifies the coordination of the regional units of National Armed Forces with the Commission of Emergency Situation of the corresponding region. Units of the Armed Forces are committed to support the civil authorities, yet the civil authorities are obligated to consult with the Military Command about all actions designated for these units.

The main forms of the Armed Forces involvement are the advisory function to civil authorities, material and equipment, and personnel.

Should an exception of type and scope of CIMIC be necessary, the Ministry of Interior in cooperation with other ministries, must approve. Armed Forces participate in maintaining public order and guard important national facilities. The Armed Forces may be involved in further necessary actions only by a special order adopted by the Cabinet of Ministers.

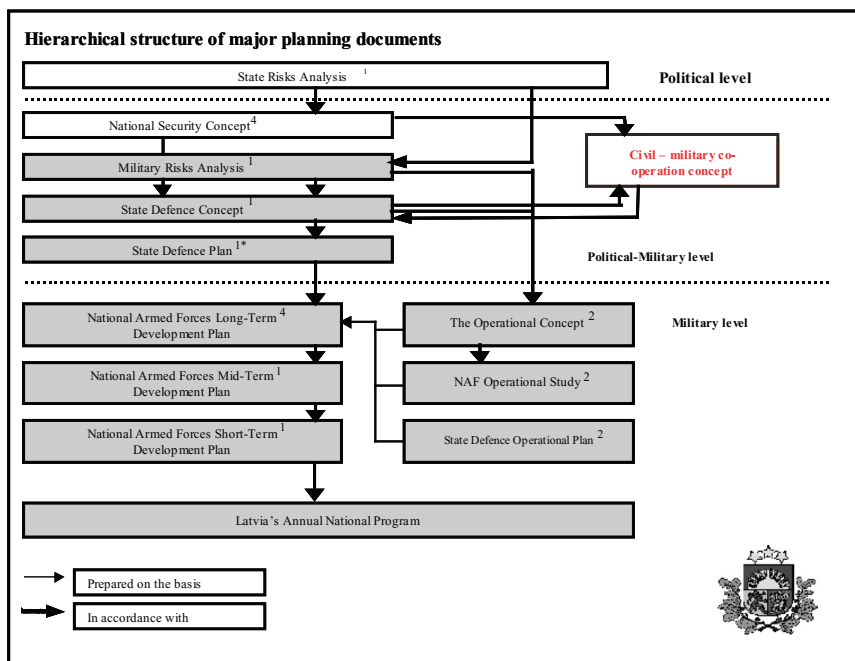
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In case of war, the civil system complies with objectives of the State defense and mobilization and provides the Armed Forces with all necessary resources, thus realizing its civil preparedness.

Military institutions determine the quantity and form of support necessary. Latvia has been a contributor to international peace support operations. During these operations successful performance of CIMIC is vital. During peacekeeping and peace support operations, the Latvia peacekeeping units use principles of NATO CIMIC organizations.

Host-nation support is an important factor in any operation or exercise scenario. Latvia has a need to achieve both efficiency and cost effectiveness in the provision of logistic support. Increasingly by applying the concept of multinational joint logistics, the overall cost for Latvia for an exercise or operation can be reduced and greater support efficiencies achieved.

Latvian host-nation support principles are based upon and local producers foresee the flexibility of close cooperation with the United



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Nations, European Union, the Organization for Security and Cooperation in Europe, non-governmental organizations, and friendly nations. They equally refer to cooperation in the framework of the multinational common task force concept, and to non-NATO countries in NATO heritage operations and exercises.

It is important to recognize that CIMIC specialists must be trained and educated in both military and civil institutions. Based on the CIMIC concept, principles of this training will be developed for use in Latvia. Latvia is a small country, and last year we trained four persons. We are working together and have a special agreement with Denmark. Our specialists have taken the training not only in Denmark, but also in Bosnia-Herzegovina.

In conclusion, civil military cooperation is an integral part of Latvian security policy and is an essential prerequisite to achieve national goals. Latvia has to learn from the Western experience in the CIMIC field. It is extremely important that Latvia use this experience to develop its own CIMIC concept that will meet its established security policy goals. Latvia is striving to reach its goal of developing and practicing its CIMIC doctrine. The aim of civil military cooperation in Latvia is to contribute to the strengthening of the Latvian Total Defense System, reduce the gap between civil and military institutions, improve mutual understanding between the armed forces and society, and contribute to Latvia's integration into NATO.

Humanitarian Response

Dr. Neil Joyce, M.D.

International Medical Corps

My presentation will focus primarily on disaster response. I am an aid worker. I work for an international non-governmental organization, International Medical Corps (IMC). Though we are based in the United States, we are an international organization. The majority of people working for International Medical Corps are not American and have never been to the United States. People come from all over the world and we have operations now in 22 countries.

The international NGOs of which IMC is only one are largely independent and essentially impartial agencies. It is our mandate, and it is the mission statement for many of the other organizations like my organization, to save lives, relieve suffering, and promote sustained capacity. There are several organizations represented here today that have a similar mission statement. Perhaps we are under represented and perhaps not.

The international NGO's have a mission that is completely different than the mission of the state agencies with whom we work. The role of NGOs and the activities of NGOs have been a problem for the stated agencies. We, to the target countries in which we work, frequently appear insensitive to the state's concerns and too smugly independent. This reputation is aggravated by some French agencies that I won't mention. There is considerable variation among NGOs for the sorts of activities they have. At one end of an axis we can consider developmental activities and at the far other end, we can consider emergency relief. Somewhere in the middle is transition.

When we are working with military agencies and other state agencies we need to consider the capacities of those agencies whether they are NGO, military, or other state. We lack command and control. The way that the NGOs are structured, whether they are development or emergency relief, makes coordination between the NGOs and coordination with state agencies and military agencies very difficult.

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We are still at the very beginning of trying to arrange a dialogue between the non-state agencies, the independent agencies of NGOs, and the state agencies so that we might do better because humanitarian aid has largely been unsuccessful. We look at Africa in 40 or 50 years of humanitarian interventions and we see a continent that is worse off for those interventions. We look at the current aid operations that are going on throughout the world, and I have participated in them, and see that we as often cause more troubles than we solve. I think that many of our partners here from Central Asian countries will recognize the great deal of difficulties in working with NGOs.

It is my hope to be able to further the discussion of the multi-agency response to disasters. For that, we need to recognize the capacities of the various organizations involved. My talk addresses the situations and the agencies that respond.

Natural disasters are characterized by a breakdown in the support networks that previously existed. This requires large-scale logistical responses; typically the military and state agencies are most capable of that. There are very few NGOs with the logistical capacity to respond to a natural disaster. Many agencies do respond to the disaster, but many of them do not have adequate capacity and frequently confound a situation. CARE is an example of an NGO without state connections that has that capacity as well. Man-made disasters are not so different to respond to as natural disasters with the exception of the complex humanitarian emergency.

We have been talking around complex humanitarian emergencies and we have referred to the issue of problems with resources as being the cause. The complex emergencies and the conflicts that evolve are the results of politics and lack of resources. We are going to be confronting that problem in Central Asia with water. It is a matter of time. These problems require political solutions. They are not essentially aid issues, however, because there is in complex emergencies frequently a blatant disregard for human rights. Human rights drives much of the response that NGOs provide.

In a complex humanitarian emergency the effort among the political players is to cause population movements. This is accomplished by breaking down the structure of society and breaking down community to force people to leave an area where the resource is desired. Frequently the targets, and it is strategic, are women and children. Because of the effects on community, an important intervention is the community-based intervention. This is the realm of the NGOs.

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The Humanitarian Imperative

- Save lives and relieve suffering
- Build local and national capacity
- Sustainable development
- Protect those in danger
 - Women
 - Children
 - Elderly
- Advocate for the oppressed

The humanitarian imperative is the moral basis on which NGOs operate. This moral basis is entirely a culturally based moral basis and it was originally enunciated in the United States, but has been discussed in the United Nations settings over the course of time.

Sphere Humanitarian Charter and Minimum Standards

- The right to life with dignity
- The distinction between combatants and non-combatants
- The principle of non-refoulement
- Responsibilities of warring parties
- Minimum standards of assistance

The Sphere Humanitarian Charter is the result of international humanitarian law. It was put together at the beginning of 1999 and is an imperfect document that needs to be regarded as a work in progress. But it is an attempt to universalize the human rights situation so that agencies from different fields can work together in an emergency. It is important to recognize that this statement about human rights must be acknowledged by all countries, accepted, and worked on. Again, it is a work in progress. We must all contribute to this. A part of the Sphere standards describes the minimum standards of assistance. We will talk more about these later but these are the guidelines with which all agencies that wish to contribute to disaster response should be familiar. It helps guide them in what just the basic minimal things that people need are.

Failures in humanitarian interventions, such as Rwanda and Somalia emphasize the need for inter-agency coordination. The development of effective coordination will be the hallmark of successful interventions in the future. This includes military, United Nations, donor agencies, NGOs,

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and especially local and host governments and agencies. We will be seeing less paternalistic relief and more culturally sensitive development even in the acute stage. The current emphasis is on reestablishing community-based systems, not on activities that foster dependence.

There are several important objectives to keep in mind in the initial response in an intervention. The first-immediate intervention is necessary to impact crude mortality rates. If the success of our intervention is going to be measured by an impact on decreasing the crude mortality rate, then early intervention is critical. The second point is that Sphere guidelines present the current thinking in assessing and addressing the physical needs of people.

Minimum Standards in Disaster Response

- Security
- Shelter and site selection
- Water and sanitation
- Food aid
- Nutrition
- Health services

The Sphere guidelines describe these six categories and which basic interventions are appropriate in each of those categories. The one on top, security, is perhaps the most important. Security is what the humanitarian agencies, the NGOs, count on the military and state actors to do. There is probably a role for logistical support, communication, and other coordination, but mostly what the humanitarian agencies are looking for, whether right or wrong, is for state agencies and the militaries to establish a secure environment so the humanitarian agencies can work. Then the humanitarian agencies want the state actors to step back, particularly in complex humanitarian emergencies. If there is conflict, then humanitarian agencies feel that state agencies and militaries will aggravate the conflict if they start to provide aid. In a disaster setting, providing aid is a valuable contribution of state agencies, but in a conflict setting it can make the situation worse.

Agencies in Humanitarian Response

- International Agencies
- United Nations
- State Actors

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- International Organizations
- Donors
- Non-Governmental Organizations

These are the basic categories of agencies and I will talk about the different agencies involved. Unfortunately, this is a chaotic mess. There is no effective chain of command or command and control for the various agencies involved. These categories do not necessarily communicate, and there is nobody in charge in most settings, particularly in complex emergencies.

International Agencies

- Economic
- Military
- Organizational
- Media
- Advocacy

The first category from the Agency list is international agencies. We heard today about the formation of the Central Asian community. It is still not clear to me and I want to learn more about whether the Central Asian community is primarily an economic agency, or whether it is sort of an organizational agency. When I think of an organizational agency, it is like the Association of Southeast Asian Nations (ASEAN). Economic agencies are like Asia Pacific Economic Corporation (APEC) and the Economic Council of West African States (ECOWAS). There are many international military organizations such as NATO, UN-backed peace keeping, or multinational forces. The media is present in all settings. They get there first, they take the hotel rooms, and they are the ones that we all have to answer to in many ways.

United Nations Agencies in Humanitarian Relief

- UN – United Nations
- UNDP – UN Development Program
- UNOCHA – UN Office for the Coordination of
Humanitarian Affairs
- UNICEF – UN Children's Fund
- WFP – World Food Program

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- UNHCR – UN High Commission for Refugees
- FAO – UN Food and Agriculture Organization
- WHO – World Health Organization

The United Nations are not united. The United Nations agencies do not work together. Anybody who had to work with these agencies will know that there is considerable in-fighting, disagreement, and turf battles between the United Nations agencies. In going to Afghanistan recently my question was, “Who is the lead agency for the emergency in Afghanistan?” Nobody could answer that. Nobody knew. It was still being fought over. The UNDP has been present in Pakistan and looking after Afghanistan for a long time. They saw themselves as lead agency. UNHCR, the High Commission for Refugees was clearly very involved and they are frequently the lead agency. They thought they should be. But they were not talking to the UNDP people. I don’t know that they are now; I am not sure that they are. A big part of the problem, of course, was food. Perhaps the World Food Program should be lead agency as they were in East Timor. But no, that wasn’t happening either. Instead you had a number of agencies, along with these international agencies, that are all trying to figure out what the other one is doing and nobody is in charge.

International Organizations in Humanitarian Relief

- International Committee of the Red Cross (ICRC)
- International Federation of Red Cross/Red Crescent Societies (IFRC)
- International Organization for Migration (IOM)

To further complicate the situation, we have the international organizations. We will hear shortly about the International Organization for Migration. These special organizations have an important role for all of us to recognize but that doesn’t necessarily mean that they are in charge.

Donors

- Governments
 - USAID/OFDA
 - DFID
 - ECHO
 - Institutions

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- Ford Foundation
 - Gates Foundation
 - Soros Foundation
-
- Philanthropic Organizations and Individuals
 - Ted Turner Funds

For donor agencies, and an important issue for NGOs in particular is, who is our customer? This is a difficult answer and is one for which NGOs have been rightly criticized. We claim to the media that our customers are the target population, the victims. Frequently though, that is not true. Frequently, for NGOs, our customers are the donors. We all have to respond to the donors. Over the course of years the NGOs have established some credibility for their capacity and for their accountability that makes the donors want to work with the NGOs. It is understandable that host nations see the NGOs as competitors for donor money. That sort of difficulty is going to cause problems in establishing working relationships.

NGOs in Humanitarian Relief

- CARE
- OXFAM
- MSF/Doctors Without Borders
- ACF/Action Against Hunger
- Save the Children
- CONCERN
- International Medical Corps
- International Rescue Committee

There are many NGOs. There are state NGOs. There are international NGOs. In Kukes, Albania, during the Kosovo crisis, there were 160 NGOs represented, plus donor agencies. Kukes was a town of 12,000 to 15,000 people before the Kosovar refugees arrived. We were all fighting for hotel rooms, translators, vehicles, and we did not coordinate very well, and this was recognized afterwards as having been one of the better examples of humanitarian intervention.

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Our Hosts

- Permission to assess and operate
- Collaboration and empowerment
- Promoting a government
- Responsibility for how aid is directed
- Impartiality
- Remember, the victims are our target

In the long history of humanitarian assistance, our hosts have been tremendously under-recognized. This will change. This must change. Failure to recognize the environment in which we are working, failure to include the host nation in consideration and in our planning causes bad humanitarian interventions. Our donors ask us to target our aid at the victim. But if we do this, whether it is we as NGOs, or we as state agencies, or we as the military, target the victims without including the host nation, we can make the situation worse. And we frequently do.

Here is a brief list of website resources for humanitarian aid

<http://www.cooperationcenter.org/index2.asp>

www.reliefweb.int

www.interaction.org

www.info.usaid.gov

www.sphereproject.org

www-jha.sps.cam.ac.uk

<http://coe-dmha.org/website/index.htm>

Regional Response to Disaster Induced Migration

Mr. Zoran Milovic

Chief of Mission, International Organization for
Migration Ashgabat, Turkmenistan

I would first like to greet you on behalf of the International Organization for Migration and thank you for the very good cooperation that my organization has with your governments. I would also like to thank the United States Government, which has been one of the main partners of our organization in the countries represented here.



IOM has offices and various activities in all the countries participating at this conference, except in Uzbekistan, but we hope to be able to assist the Uzbek government in similar ways in which we have assisted the other countries of Central Asia and the Caspian Basin.

As you will be able to see from some of the documents that we have prepared, the migration mandate of IOM is rather wide. Together with the regular migration assistance and resettlement programs, IOM has also developed a wide range of other migration-related activities, for example on labour migration issues, anti-trafficking, migration and health programs.

For us today, however, of particular interest are those activities that are relevant for post-disaster or post-conflict situations, as well as for development of emergency preparedness both at national or regional levels.

In recent years IOM has been very active in different Humanitarian Assistance Operations, both in Disaster Relief Operations (responses to Hurricane Mitch, the Gujarat Earthquake, the last week's earthquake in Northern Afghanistan), as well as in Peace Support Operations (the Balkans, Ruanda, Burundi, East Timor, Sierra Leone, Afghanistan etc.).

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Every disaster, regardless of whether it is a natural disaster or a war or internal instability, results in migration: displacement and movement of affected populations. In brief, impact of either conflict or natural disaster on civilian population might be defined as follows:

- Destruction of homes
- Loss of human lives
- Displacement of affected population
- Need for urgent medical attention
- Shortage of food, water and fuel
- Economic instability – loss of jobs and income
- Breakdown of social structures, often of law and order as well
- Destruction of infrastructure
- Psychological problems caused by all of the above

It is clear that the main needs are various and of different urgency. I am emphasizing this because in terms of prioritizing needs and activities, as well as using available resources, some of these issues continuously remain at the end of the list. At the same time, however, governments, overwhelmed by urgent short-term needs, often forget that many of these needs (and especially the longer-term ones) can be equally—and sometimes even better served by non-governmental or international organizations, both in the emergency phase and in the return and reconstruction phases.

In order to achieve such cooperation, partners must work to understand each other's abilities and strengths. They must establish coordinating structures to provide both the expert assistance in form of capacity building before a disaster strikes and a functional assistance coordination framework in the immediate and mid-term post-disaster situation. At this stage, however, many governments are reluctant to admit that in terms of preparing themselves for a post-disaster or a post-conflict situation, cooperation might be developed and trust built between them and potentially very valuable NGO and IO partners. In addition, there should be an understanding that a regional disaster-response mechanism would enable governments to use regionally available resources more efficiently, and to build additional mutual trust in the process, thus positively affecting the overall political context.

However, the first working assumption for such a coordination to exist is that the basic mutual trust is already there, and that there is political will to work together on prevention, preparedness, and emergency response. At this

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point this willingness is not the same among the countries of the region. This should not come as a surprise, bearing in mind often competing economic interests – especially when we speak about energy resources in the region, as well as political and security interests, on top of past historical grievances and the current internal political obstacles.

Also, there are numerous outside players and their own interests involved, and the governments of the region sometimes find it hard to judge whom to trust and on what grounds. I emphasize this element of trust and understanding because it directly affects the two crucial issues of our interest today: 1) willingness to participate in joint regional-level activities and 2) willingness to work closely with local NGOs or international NGOs or IOs, as they are rather often considered as being just a part of a wider political or economic strategy of their donors.

I do not want to underestimate this particular obstacle, and I do not want to dismiss it as a simple lack of democratic political culture. On the contrary, I would like to emphasize to our partner governments that they should be able to judge for themselves what is it that they might be getting from NGOs, IOs and their donors, and how this measures in comparison with their assessment of their own needs. A clear view of the issue will show that very often NGOs and IOs are able to be very valuable partners and work very closely and efficiently with governments. Due to the nature of their approach to the issues and the implementing field partners, NGOs and IOs are of exceptional value, since they often:

- Know better the conditions on the ground.
- Are more flexible and less bureaucratic and corrupt.
- Speak the local language.
- Mix more openly with local populations.
- Are more gender balanced and conscious (and thus have better outreach).
- Spread more within the country.
- Can help stabilize a hostile environment.
- Can help dispel stereotypical image.
- Have a broad international experience.
- Often have their structures in other neighboring countries and at regional levels ready to assist.

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In many instances NGO and IO partners are able to provide essential support services to affected populations, including the following:

- Distribution of food and non-food relief supplies
- Primary and emergency health care
- Water and sanitation
- IDP (Internally displaced persons) or refugee camps management and protection
- Logistics and warehouse management
- Care of vulnerable groups (elderly, sick, disabled persons, widows, unaccompanied minors)

Some new and still evolving relevant services and sectors include:

- Rehabilitation and reconstruction
- Sustainable development
- Good governance programs

In case of post-conflict or post-disaster programs, they also include:

- Peaceful conflict resolution
- Reconciliation and reintegration
- Post-trauma assistance
- Land mine awareness training
- Job training and small-scale economic development
- Demobilization and reintegration of former combatants
- Return of qualified nationals
- Advocacy and human rights monitoring

As you will be able to see from other documents available on IOM's activities and expertise in post-disaster, post-conflict or peace support operations, IOM is able to provide a wide range of additional services, for example:

- Registration
- Management of camps for internally displaced persons (for example, currently in Northern and Western Afghanistan)
- Information dissemination
- Transportation (of people and goods)
- Medical evacuations/placement/treatment/ screening/return

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- Different return and reintegration programs, including return of vulnerable groups
- Return of qualified nationals
- Demobilization assistance programs
- Mental health
- Various capacity building programs
- Infrastructure rehabilitation and reconstruction
- Resettlement programs

With offices in more than 100 countries of the world, and being an inter-governmental organization, able to partner both with NGOs at community level and with various international partners and organizations at various levels, as well as with governments at national and regional levels, IOM is able to provide timely and comprehensive emergency assistance package that can be further developed into a comprehensive menu of return, reconstruction and development programs, implemented in close cooperation with various partners. Also, IOM is able to function efficiently across borders and at regional and global levels, working closely with host governments.

Being an inter-governmental organization, IOM works closely with governments both on capacity building at national and local levels, and also provides an opportunity for development of an acceptable technical coordination framework on various issues. For example, at present moment IOM works closely on migration management and border management issues with most of the Central Asian governments through the Regional Center for Migration and Refugee Issues in Bishkek, and hopes to be able to assist the governments in the region in further discussing and developing necessary coordination and cooperation mechanisms on various issues.

At the end, and as we have gathered here under the auspices of the George C. Marshall European Center for Security Studies, I would like not only to thank them for this opportunity to discuss a very important issue, but would also like to emphasize how essential it is to achieve efficient cooperation between various NGO and IO partners and military structures of host governments, as well as with relevant military structures of humanitarian assistance providers. Time and again IOM had a chance to work closely with different military structures on delivery of emergency humanitarian assistance, medical evacuations, and security issues. In general, military assistance to civilian operations is often essential for success of an

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emergency assistance operation, as government military structures, both at the local, national, and international levels, are able to provide:

- Essential overall information
- Security advice
- Emergency logistics assistance:
 - Medical assistance
 - Transport assistance
 - Fuel
 - Food
 - Shelter/accommodation

Also, our experience has always been that cross-border, regional or even global cooperation with military structures is often much easier and more efficient than with other partners, as the mutual attitude is focused on solving problems and achieving goals and not on finding excuses.

I am sure that in the future we will be able to further continue our successful cooperation with the existing partners, and I hope that we will also be able to further develop new partnerships with relevant government structures of the partner governments present at this conference.

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Chapter 5 - International Disaster Response Resources

*Panel Moderated by
Professor Timur Kocaoglu*

*Relationships between Military and
Civilian Organizations*

Mr. Paul Giannone

*Disaster Response Planning Processes and
Procedures*

Mr. Wolfgang G. Krajic

*The USCENTCOM Environmental Stewardship
Concept*

Colonel Jerry T. Mohr

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Introduction

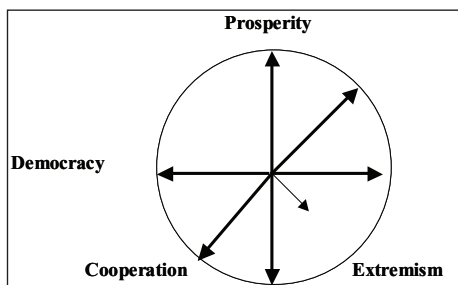
Professor Timor Kocaoglu
Koc University, Istanbul, Turkey

Today's first panel is on International Disaster Response and we have an international panel. Although an American, Paul Giannone must have been from Sicily, Wolfgang Krajic is from Austria, Colonel Jerry Mohr is from the United States, and I am a Central Asian living in Turkey. So this makes our panel quite international.

I would like to thank the organizers of this conference, especially the George C. Marshall European Center for Strategic Studies, for inviting me to this excellent conference because as a historian and political scientist I do study Central Asia. But here I have learned a lot from the military and civilian experts and academicians who have enlightened me with various questions and issues of which I was unaware before. So this conference was very educating for me, and I hope that everybody has this feeling.

Before introducing the first speaker, I would like to make a very short comment on new issues and questions that have arisen. Various experts and academicians have pointed out the regional importance of Central Asia and the Caspian Sea because in today's present world there are two models.

There are two models of development. One is the European Union Model. The second one is the Middle Eastern Model. The main difference between the European model of development and the Middle Eastern model



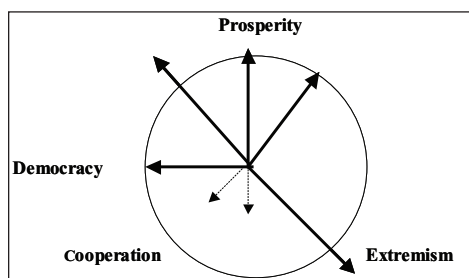
**EUROPEAN UNION MODEL OF
DEVELOPMENT**

are that in the European model there is regional corporation, which is the essence of this Union. There is a regional corporation going from one, down to up, and there is democracy, which also stretches to this shape. The third one is prosperity. The European model shows that. As long as all European countries prosper together, there will be a future

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for European models. If only a few countries, for example only Germany, France, and England prosper, but Portuguese, Spain, and Greece do not prosper as much as the other European countries, then the European model will be just a theory and dream. But the European model is fundamentally based on this balance. So there is a balance in the European Union that brings security to this region.

Then there is a second model. That is the Middle Eastern model, where some oil rich countries are prospering, while there are other Middle Eastern countries that are not. They are getting poorer and poorer. So there is no



**MIDDLE EASTERN MODEL OF
DEVELOPMENT**

balance of prosperity in the Middle East. Secondly, there is no democratic dimension. A very few countries may have developed a mediocre kind of democracy, but there is strong anti-democracy development and dictatorships in the Middle East. The third dimension is the regional cooperation that the Middle East lacks. There is no regional cooperation in the

Middle East. That is why extremism is the largest dimension in the Middle East. In the European Union model there are some extremist movements within the European countries, but they are being blocked before they can develop fully. So the European model is a very good model that blocks extremism within the European region.

This is now the question for Central Asia, both for the outside players who are now involved in Central Asia, and also for the regional players who have a say on this question. The question is whether Central Asia, together with the Caspian Sea region, will take a model of the European Union for the future of the region, or will they become a second Middle East? That will be a nightmare, to become a second Middle East.

Let me make it short and precise if, for example, Kazakhstan, Uzbekistan, and Turkmenistan have immense deposits of oil, natural gas, gold, uranium, and various minerals. On the other hand, Kyrgyzstan and Tajikistan have less underground resources. So if Central Asia develops only on one angle, Kazakhstan, Uzbekistan, and Turkmenistan become

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richer while they leave Kyrgyzstan and Tajikistan poorer. Then instability will develop in the Central Asian region. So this is a very careful and very important dimension of which the Central Asian states should be aware. In order to curb and block extremism in the future in Central Asia, there should be regional cooperation and regional development of democracy, freedom of speech, freedom of expression, and a free press. Otherwise, Central Asia will be a second Middle East in the near future.

I would like to also say a few things for the outside players who are interested in the Central Asian region. On the one hand there is oil, natural gas, immense energy sources, and minerals and metals in this area, and a very young population, which are the positive sides and the richness of this region. If they overemphasize the other dimensions to the detriment of regional cooperation, regional prosperity, and democracy, then they cannot avoid in the future the extremism that will develop in this region like it happened in Afghanistan. It can threaten not only this region, but other parts of the world.

I hope on this dimension we will follow up the advice and the suggestions of the panelists to help to deal with the present political, environmental, economic, cultural, and, of course most importantly, democratic problems of this region in order to fight against disasters and other kinds of calamities.

Relationships Between Military and Civilian Organizations

Mr. Paul Giannone

Deputy Director, Emergency Preparedness and Response,
CARE USA

My discussion will deal with key points of NGO relationships with the military, but I also want to provide some ideas and suggestions on how we can work with the host governments because you are very, very important to us. You are actually our key. I will use CARE as an explanation on what NGOs are like. My purpose is not to sell CARE. But in reality with all the large major NGOs, we are very, very similar in structure. We do similar things.

I will start off with a quote by our Secretary General in Brussels, Guy Tousignant, who is a former General in the Canadian Military. He says, “The question is not whether or not we cooperate with the military, but how much should we cooperate.” And that is a very, very big question for all of us today.

From 1969 to 1971 I served in a civil affairs outfit in Vietnam working with refugees and doing medical construction. I would like to say that the Army ordered me into my career and I have been doing it ever since. The importance of this is that within the NGO community, there are not many people like me. I have one foot in the military world and the other foot in the NGO world. I understand what can be done in both worlds and what can be accomplished, but I also understand the constraints very well.

Thirty years later I am wearing a different uniform. I am not carrying a gun but I am also operating in very, very successful civilian-military operations. This is in Albania, Camp Hope. And it showed for me how well we can work together when we want to work together and decide our problems.

CARE was formed in 1948 by other Non-Government Organizations to address



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the refugee problems in Europe and in Asia. We were feeding refugees. We developed what is known worldwide now as a CARE package, packages of food to be given to refugees. From there we evolved from a relief organization to a developmental organization. Today we are about 90% development and about 10% emergency response. We are, today, an 11-member federation spread out throughout the world. We have a secretariat in Brussels who organizes this group and its various phases of development and relief.

CARE operates in 70 countries worldwide. We look at regional approaches more and more. In Africa we have a Southwest regional office and an East Africa regional office; in Asia we have one regional office; in the Middle East we just formed a regional office; and in Latin America we have a regional office. They control the smaller country offices below them. The importance of this structure is that we are in this for the long term. We are not just there for the emergencies; we are there for years and years. We have been in Afghanistan for 25 years and in India for 50 years. We offer a total package from relief to development, which smaller non-governmental organizations cannot do.

We generally understand the culture, politics, economics, and security of the regions in which we are working. In these regions we have developed long-range regional strategies. There is a Great Lakes regional strategy that we developed. There is a regional strategy being developed in South Africa. There is a regional response strategy in Latin America. I think we should do a better job of sharing these regional strategies with others.

Another thing that is important to us is that we are getting farther and farther away of delivering services. What we want to do is work with host governments, develop capacities, work with local NGOs, and develop their capacity to deliver the services while we provide supporting roles in the service delivery.

CARE's Vision: We seek a world of hope, tolerance, and social justice, where poverty has been overcome and people live in dignity and security.

CARE's Mission: Serve individuals and families in the poorest communities in the world by promoting innovative solutions and global responsibilities.

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We facilitate change by:

- Strengthening the capacity for self help
- Providing economic opportunities
- Delivering relief in emergencies
- Influencing policy decisions at all levels
- Addressing discrimination in all its forms

Almost all non-governmental organizations have a similar vision and mission. We would probably argue ‘but that is not true,’ but it is reality. We are based on basic principles.

In our CARE staff around the world we have 12,000 plus people working for CARE at this point in time; 95% of all our staff is national staff. We do not use a lot of expatriate or international staff. We do not want to use a lot of international staff. We would prefer to train people in their own countries, or use people in their own countries. This is because many of the countries have very well skilled people to do the work. All we need to do is hire them and put them on board.

Let me mention a few of our concerns and our strengths. In an emergency like Afghanistan, CARE can shift many of those 12,000 people into areas where we need them. We have some incredibly strong disaster response people who live in East Africa or who live in Southeast Asia who we deploy as our first line of defense. Our worry for them and for our national staff is security. Often we are working in areas where we are moving people from one tribal area to another. When the helicopters come in to pick us up, if there is an evacuation, they do not pick our national staff. Often we have to leave them behind. This has been a major issue for us in the last two years.

Our history of working with the military goes back to 1949. During the Berlin airlift, CARE played a significant and a successful role in working with the military and bringing in food supplies. We were one of the significant players during that period.

I am the person responsible for disaster preparedness within CARE. One of CARE’s mandates is that we will provide relief assistance to people anywhere in the world that need us; however, we are not going to duplicate services. If someone else is doing a better job, so be it, let them do it. We are not going to send people in to areas where we cannot provide some form of

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security. We will respond world wide if necessary. Another caveat is CARE will not go unless a host government asks us to go.

All CARE country offices must have disaster plans. This is true probably for every large-scale non-government agency. They all have disaster plans. Candidly, of the 70 countries we have, we probably have disaster plans for only 15 countries at this point in time, and probably only three of them are any good. What is happening in the disaster-planning world, and I am one of the ones trying to change it, is that disaster plans are something you do to check a box and say you have completed. They are generally thick and no one uses them. What I want to do in the next few years with CARE, but hopefully with the help of the host governments and other NGOs, is to make these plans a little bit more alive.

The pilot that flew me in here was not reading a manual to determine how to land the plane in Munich. He knew how to land the plane in Munich. The paper in a disaster plan is no good unless it is in your mind, unless you know what you are going to do when a disaster strikes. You can have the biggest disaster plan in the world that is useless.

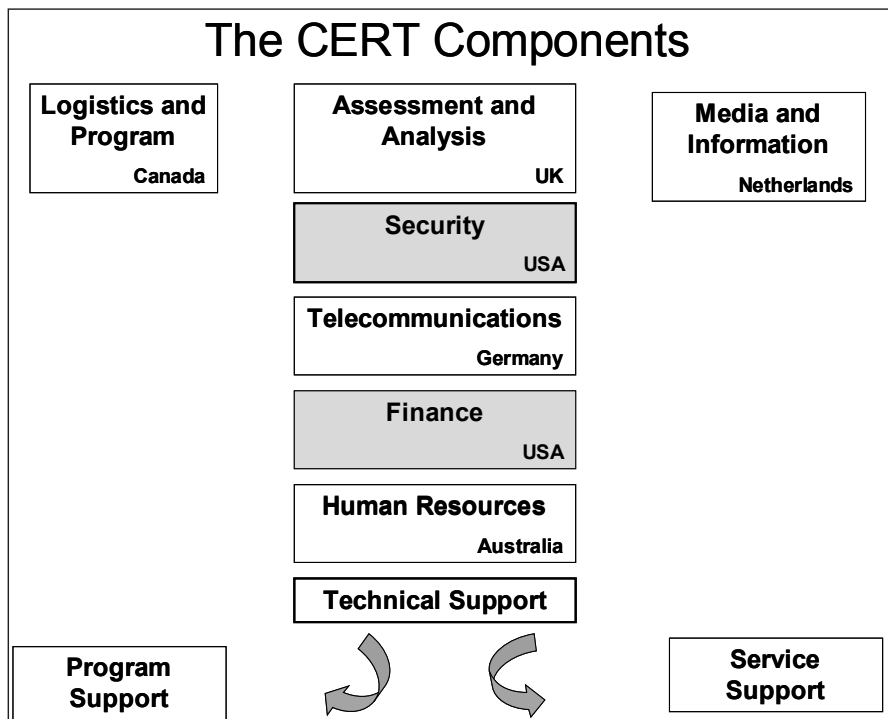
What I am trying to do with CARE and other organizations is to see the host country governments help so that these disaster plans are not developed in isolation. CARE does its own disaster plan but talks to no one. What we need to do in the future is to bring in the host governments and have the host governments as the leaders of the disaster plan; we need to have every NGO that wants to participate in disaster response be a part of that disaster plan. Then we can determine who is going to do what, what are our major risks, what are our major problems, what we will do, and what we won't do. At least this way we know how we are going to work together. This is what we are planning to do. I have formed a committee within the Secretariat and we are going to start at a very low level within CARE, but we are going to look towards host governments to pilot such things.

Certainly within the disaster planning process, what we are looking for is community and host country. We mentioned the SPHERE process yesterday and under SPHERE people have the right for relief during a disaster operation. We have carried it one step further. Not only do people have a right to get assistance during a disaster, they also have a right to determine what assistance they are going to get and to participate in that type of assistance. That is what we are trying to incorporate into our disaster planning.

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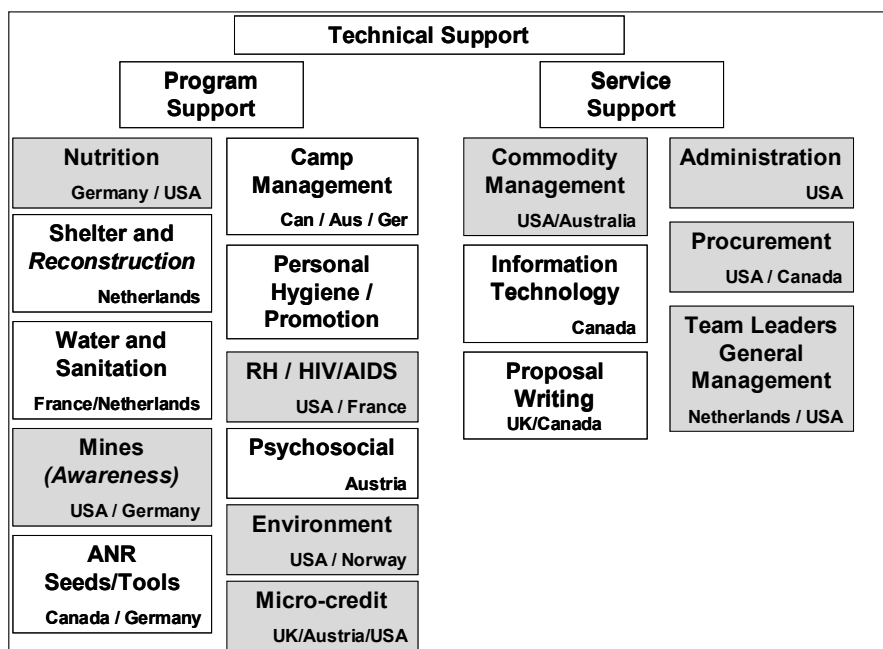
CARE has evolved a great deal in the last few years because of the climate of the world. All major NGOs have now formed something like the CARE Emergency Response Teams (CERT). The idea is to have people on the ground within 72 hours, or at least in planes within 72 hours. Our aim is to accentuate our skill sets and to optimize our response. We will also focus again on the community and the host governments to see how we can help them. In this case our chain of command is from the bottom up. During a disaster the country office director will call up our response team. He or she will tell them what their needs are and we will fit our team to help their needs.

This is our A Team right now for disaster response. When a Country Office Director needs help and they want it, this is our basic A Team that we are beginning to train. He can pick all of the team or parts of the team, but we will have people ready to go in each of these specialty areas. Logistics, assessment, and immediate information are the top of the tee. Then security, assessment, and immediate information are the top of the tee. Then security, telecommunications, finance, and human resources are the remainder. The



CARE EMERGENCY RESPONSE TEAM

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CARE TECHNICAL SUPPORT FUNCTIONS

shaded parts in are responsibilities of CARE USA. The others are from other CARE secretariats.

We have additional support capability beyond the responding *A Team*. This is our capability worldwide. We have expertise within CARE that can cover these functions and, if need be, on the second wave. Depending on what kind of disaster it is, we will be able to field these types of people. Environment is a key issue for us and we do have environmental specialists in the plan. This is the *B Team*, this is the second wave.

CARE shares some similarities with the military. We have a chain of command. Many people think we are a highly disorganized group of people. We are not as quick as the military, but we do have a command structure that tells us what to do. We are involved in regional planning. We have a decentralized chain of command as such. I will give you an example of the India and the Orissa Cyclone. Our sub-offices were completely cut off from the headquarters. Our sub-office Field Commanders, if you will, had the authority and did act to start the emergency operation. That is what we

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expect from our sub-office leaders. They are decentralized. They will move to make sure that the right things are done to save people's lives.

Transition related to recovery is another myth that I keep running into, that NGOs only want to help establish welfare systems. This is not true at all. I would not be involved in this organization if all CARE wanted to do was hand out food. We start with our disaster preparedness plan. We begin with an initial response. We target gaps that are needed by the host government for support. We build on the local capacity of people. I have reviewed a number of lessons learned in different countries and what I repeatedly hear from people at the village level is, "we don't want a handout. What we want is the capability to take care of ourselves." In almost every country I have been I have found very proud, hard working people. They do not want us to give them handouts, and we are not about to do so. Our focus is on social and economic rehabilitation and physical reconstruction.

I think the challenge for all of us now and in the future is to shorten the gap between the relief phase and the development phase. In Kosovo we brought development people in within weeks of crossing the border. They were not responsible for the relief phase. They were responsible for taking a look at long-term development initiatives. We need to do it right and transition very rapidly so we can move on to the next disaster.

There is increased danger and difficulty in delivering humanitarian assistance to those affected by disaster and conflict. CARE finds itself working in close operational proximity to a range of military and paramilitary forces. Peacekeeping and peace enforcement missions have become more prevalent and military personnel have been increasingly drawn into humanitarian affairs. CARE has little choice but to work with military forces. I define military forces not only as U.S. military forces and NATO forces, but rebel groups and paramilitary groups. So it is a broader range.

CARE has established criteria for working with military forces. Have non-military civilian alternatives been examined? Has an assessment been made on how working with a military will affect the CARE International's acceptance by the local population? Has an assessment been made on how working with the military will affect security of personnel? Is military assistance needed under the prevailing circumstances? Cooperation with the military will not lead to CARE International being associated with

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human rights violations. Again, we had very, very difficult times in Sierra Leone dealing with rough rebels.

I'd like to talk about some constraints we have in working with the military. The NGOs will operate under a humanitarian charter while military and paramilitary are working under government or rebel policies. NGOs are there before the disaster, during the disaster, and long, long after the disaster. In some cases the timeframe for military forces is short; they go in, they accomplish a mission, and they return to their bases. Humanitarian assistance is linked to local development where in some cases military-civilian affairs is linked to government objectives.

CARE staff prides itself in the fact that we are like the face in the crowd. We are part of a country. We live and work in a country so we know the language and the local culture. Often the military forces that come in may have experience, but they often lack the practical experience in dealing with the people that they are with. We work on a 'do no harm' philosophy, not creating dependency, but building confidences and sustainable programs. I have picked this up in Fort Bragg when training Civil Affairs there; I called it a 'Fighter Pilot Syndrome' because I gave a lecture on development. They said, 'Oh, well, we know development. We understand development. We come in, we build a couple bridges, and we move out. That is development.' The definition of development for us is much different. My advantage of having been a Civil Affairs person in Vietnam for two tours is I did long term development activities at village level. I got to know the people. I got to know and understand how the people work, and how sustainable development is important here. It's not just going in and throwing up a structure.

There are several dilemmas for NGOs working with military forces that are coming out of Afghanistan and other areas. This is where I am in a quandary, too, because this is one of those places where my feet are in two different locations. *Military personnel are operating wearing civilian clothing.* This is scaring a lot of the NGO personnel because then the differentiation between a military person and a civilian person is obscured. Another item that should be mentioned is that the military is doing a lot of the work that mostly NGOs traditionally do. My problem with this is in 1970, as a civil affairs person, I wore civilian clothes. I did it because it was for security and I understand that rationale very well. How we can work this out, I don't know. I preferred being in civilian clothes with my counterpart in Vietnam because it made me less of a target. The fact that the military is

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doing things that the NGOs traditionally do is interesting, but if you look at the history, CARE was formed in 1948. Civil Affairs was formed in the U.S. Army in 1945. Civil affairs has been operating in and out of the Army longer than CARE has been doing what they have been doing, longer than many of the NGOs that exist today. So this is the quandary that I am in right now with this, and I probably will get my colleagues at CARE angry at me.

We have a problem of information sharing versus military intelligence. To tell you the truth, if I am operating in an area and I know there is a minefield somewhere, I am going to tell my local military where they are. I don't know where the boundaries lie on this, but I am not going to see anyone hurt because I have some military intelligence that is going to save lives. But it is a difficult call for all of us.

We are concerned about the perception our beneficiaries may have of an NGO working with military forces. How much do we associate ourselves with military forces?

Again, do we provide assistance to all or assistance to only friendly elements? In Bosnia we provided humanitarian assistance to civilians in all three warring factions.

I was going to talk about conclusions, but I would like to spend a few seconds on what I would like to see in the future. I got this from discussions in the last few days. I gladly go and participate in exercises with the military. It is my way of paying back the military for what they gave me. I like going to training at Camp Lejeune, at Fort Bragg, or at Norfolk. But at some point in time there is going to have to be a discussion at a much higher level as to how we work together. I think we can do great things together. I believe we can do great things together. It is a matter of just sitting down and deciding what we can do and what we can't do, and then going on from there. We need to do more joint meetings and training somehow.

It is great to be here. It is good to talk to people at your level and give my field perspectives, but somehow we need to train together. I conduct training worldwide for CARE. We never have military representatives at those training sessions. We need to think about these things. I am an aging athlete. What you do in practice, you do in the game. If we don't practice together we are not going to be able to play the game together.

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We need much more regional planning and analysis—we have reams of material on regional plans, analysis, and trends. The issue of water keeps coming up and we know it is going to be a dilemma. They are going to be killing each other over water in the next five years. We need to share that information with one another. With new technologies, it goes back to disaster planning and I would ask the host governments who is in charge? I believe that the host governments are very much in charge. If you have a strong disaster plan, you control a lot of things. If you insist that CARE be part of that disaster planning process, we will be part of that disaster planning process. I would like to see drills and practices in countries vulnerable to natural disasters.

On April 12th, I am returning to Vietnam with some members of my old platoon. We are going to two sites, two hospitals that I helped build. One hospital is still operating. The second hospital was operating until 1985 when a typhoon took it out. Even in the worst of circumstances, when civilians and military get together we can produce things that are long term, sustainable, and help the people at village levels. That is where my priorities are. Thank you very much.

Disaster Response Planning Processes and Procedures

Mr. Wolfgang G. Krajic

Thank you for the introduction, and thanks to all of the organizers for inviting me and giving me the chance to share my thoughts and the experiences with you. Welcome and congratulations to my colleagues from the Central Asian states, with whom I have become very close over the last two years.

Talking about planning in this forum would be like carrying olives to Athens or coal to New Castle because the military is probably the entity best known for planning. Therefore, I am going to concentrate mostly on the peculiarities of disaster response planning, also known as consequence management planning. And I will try to point out a few differences between generic planning and the specialty of disaster response planning and focus on the obstacles one has to overcome when planning for disasters. I will try to reflect on the region of the Central Asian states and I will close with a few ideas for the way ahead for disaster response planning in the region.

"In preparing for battle I have always found that plans are useless, but planning is indispensable."

Dwight D. Eisenhower

I don't know if you are aware of this phenomenon (blowing dust off a pile of papers), this is our emergency response plan, which has been locked up for two years in the locker behind me. It is a little bit dusty. The plan itself, as a result, is nice to have, but the most important thing is the process of planning. It must be an evolving, ongoing, basically a never-ending process on which I will elaborate in just a minute.

"A good plan, violently executed now, is better than a perfect plan next week."

General George S. Patton

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One of the major obstacles with planning is the plan. Most of the plans, at a certain stage, get stuck. Either the assessment takes too long, the consolidation of the information takes too long, or the plans are not disseminated and promulgated properly or enough. Therefore, they remain imperfect plans for their whole life cycle.

Why and how should one plan? As I said before, the important thing is the planning process. It is an ongoing, open ended, evolving process widening the horizons of the planners. All of you who have been planning have had the experience that once you are in the middle of the planning process; you will suddenly find interdependencies, commonalities, connections, or differences in infrastructure, with partners you have to plan with, in procedures and process. If you want to establish a proper emergency response plan, then it has to be interactive. This means including as many stakeholders in the plan as possible. Especially for the military and civilian national authorities, there are a lot of different obstacles to planning.

The first obstacle is uncertainty. Bureaucratic institutions like many national entities are not good planning bodies. Planning is, of course, future oriented. If you are working on a future orientation, you have to take into consideration assumptions. Bureaucracies by their very nature are often not willing or able to accept even valid assumptions because they bear too much of a risk for them. People are not willing to make decisions based on assumptions. The military does that. Civilian national authorities very often don't. Therefore, so-called plans are not actually proactive, but are reactive.

A plan needs a permanent emphasis and a permanent push behind it. Even if it is completed, don't print a plan on glossy paper because you will have to reprint it within a half a year and then you will have to reprint it again if you want to have a good plan. It needs permanent updating, cross checking, and re-certifying of the information contained within the plan. Especially within the military, it is very hard sometimes to go into the stage of coordination, which is called joint planning, because as Sun Tzu said, "Therefore, the best warfare strategy is to attack the enemy's plan." If I remember correctly, the second best is to attack the enemy's army. The third best is to besiege his cities. And the fourth and last one is to attack the country. Especially the military, but also some civilian organizations, have the tendency to protect their plans. They put the plans into the locker and

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don't ever share them with their neighbors because otherwise the neighbors might know what is being planned.

In disaster response that does not help you. If disaster strikes you have to have your plan, but it is not good enough—your neighbors and the other stakeholders must also have your plan. At the conclusion of my presentation I'll address a regional approach. Regional means coordination on the national level between communities, between providences, or on an international level between neighboring countries. It also means that you share the plans you develop with your neighbors and with the stakeholders involved.

All of you are aware of the four steps that surround planning. The first one is the information collection part of the whole exercise. It does not matter what you call it. In the civilian emergency response it is normally called assessment, but you can also call it research. You can call it intelligence gathering. You can call it information collection, whatever you prefer. The most important but the most frequent mistake made in this phase is that people not willing to look just a little bit over the edge of their soup plate to research and assess properly what already exists. Even existing multilateral agreements are not taken into consideration. I am relatively sure that very few people have heard about a clear charter for humanitarian behavior and minimum standards. There are a lot of plans and a lot of tools out there already, which very, very often are not properly taken into consideration.

Most of the time our problem today is not that we get too little information. Actually, the problem we very often face is that we get too much information. When we go home after the conference, I guess some of you will have 250 to 740 e-mails on your computer, a typical sign for too little information. The problem is selecting the important information. That is the second step, processing of the information, to check whether that information is valid, whether it comes from a reliable source, whether I have contradicting information and a couple of other features in the validation of the information provided. All of this is put into developing the plan and very often the plan is then put into the locker.

The third step is to disseminate and promulgate that information. We are always talking about disaster response planning. It just does not help to lock the plans away. You have to share them with your neighbors, with all the people involved. The final step is to update your plans regularly and permanently.

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There are a lot of tools and possible support for planning available. Very many international and non-governmental organizations are available to a nation to support planning and for developing of plans. I have been working for the last two years at NATO headquarters in Brussels, and NATO entertains a whole directorate, which is called the Civil Emergency Planning Directorate. These folks are available for support, especially to the Partnership for Peace and the Atlantic Partnership Counsel nations with planners to support developing their national or regional plans. I had the pleasure and honor to participate in one of their conferences. I took the Kazakhstani natural disaster preparedness plan as a case study for the last seminar. I would like to refer to that very, very briefly.

Starting in 1999 and finalizing in 2000, Kazakhstan developed its own natural disaster preparedness plan. On the national level they did an outstanding job. They got together in a group, all national stakeholders, both vertically as well as horizontally. This includes governmental agencies, local agencies, districts, and communities; it also includes the military and the Ministry of Finance for customs procedures. But they also invited international, non-governmental organizations and international organizations to contribute to the plan, and later on to cross check the plan and present it to the government. Today, that plan is legislation in Kazakhstan.

There are many tools and supporting items out to help in developing plans. Look for them; they exist. Plans usually fit much better into the system of the international community if they adhere to certain standards and they are compatible. They are at an ideal stage if they foster interoperability between all stakeholders and entities involved. There are standards out there, and if one adheres to those standards, plans all of the sudden become like a jigsaw puzzle, and they fit into each other. For example, if you take the existing plans under consideration, you try to match them with the plans of your neighbors and the plans of the international organizations. Some of the most prominent features in a plan very often lose part of their interactivity and sense if language, culture, and regional specifications are not taken into consideration. An extremely well designed plan kept only in the Swahili language will not support international action very well because there are just too few people on the globe that talk Swahili. The same difficulty exists with about every national language. If you have a plan and if you want to promulgate and share it with people in order for them to be better prepared

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to respond, or for you to assist, one's plans must be generally accessible and part of that is language.

The Central Asian region is a high-risk area for disasters and emergencies. These include natural disasters, technological disasters, environmental disasters, and, in UN diction, *complex emergencies* that are emergencies related to war, possible war with the main focus on a displaced population or refugees. As we heard yesterday, it has become a focus area through the light shed on the region by the Afghanistan crisis. Presently there is a lot of attention on the region. I sometimes call that the CNN effect.

It is problematic. We also heard about that focus in the countries. The young democracies are developing their own structures and procedures, and thus they have a lot of different planning and executive bodies, which very often are not yet compatible. Therefore, they have problems in trying to communicate with their neighbors and finding a common ground. So far, with respect to regional emergency response planning, relatively few initiatives are underway. However, there are a lot of initiatives going on at the nation level, within the nations in a local level, and on a regional level within the country, but there are relatively few initiatives going on concerning the region as a whole.

Why do I stress the importance of the regional approach? Neighborly help has proven the most efficient, effective, and timely help in all the disasters around the globe throughout the last year. Even well trained emergency managers, well educated with extremely good plans, can all of the sudden become not-so-good emergency planners and operators any more if their emergency plans are floating out the window on a flood level of a meter and fifty, and their computer is swimming one meter and fifty lower. Or, your country could be hit by a man-made disaster, and your family could be displaced or members of your family could be missing. All of a sudden you are not a good emergency manager anymore because your normally functioning brain now works differently. Therefore, it is extremely important that neighbors have the capability to provide support because the nation very often is lacking the resources, and is lacking the management personnel. Therefore, the neighbors must come in.

Additionally, I believe that emergency managers from Turkmenistan know a little bit more about Kazakhstan, for example, than emergency managers from Japan, Australia, or the United States. It is the familiarity

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with the region, with the regional peculiarities, which supports the regional approach. Therefore, I would urge getting work done for the region, and that is what this conference is all about.

Very often plans do not take into consideration the gaps that they are opening. Paul Giannone said earlier that the military, very often, is coming in to support, to assist, like the cavalry, doing their job and vanishing. Often this occurs without a clearly defined end state or it is the end of the budget year and they are off again. That leaves a gap. A classic example is Hurricane Mitch in Central America where the early responders came in, the cavalry, worked there for four to six weeks and then departed. Then there is the gap in the disaster management cycle between relief phase and the beginning of the rehabilitation, reconstruction phase. Because when the big money donors, like the Bretton Wood Institution and the World Bank, promise money it is for immediate projects. But it normally takes six months to a year until those projects really hit the ground in the area. Very often you have a gap between the response phase and the reconstruction, rehabilitation phase. Plans should take into consideration that gap.

A final obstacle to disaster response planning can be legislation. Very often countries are lacking legislation in the field of disaster response. Many countries have the proper legislation to send people abroad to assist, but I am not aware of a single country that has recent legislation to help receive assistance. That might be very difficult with failed states in complex emergencies, but it is extremely helpful in natural disasters. If you will tell the world before an emergency what visa requirements you will set up for foreign assistance coming in, which water crossing procedures you will set up in your country for incoming assistance, you can receive assistance more quickly. Who are the contact persons for incoming assistance? How is the host nation disaster coordination organized? If you will tell the information to the world before it is asked to assist, the world will be in much better position to assist the country. You can do this if you have the legislation before disaster strikes.

Thank you for your attention. I hope that I have been able to stimulate your thinking into the role of this conference in developing regional disaster and consequence management corporation in the Central Asian region.

The USCENTCOM Environmental Stewardship Concept

Colonel Jerry T. Mohr
USCENTCOM Engineer

In the course of executing Operation Enduring Freedom (OEF) in Afghanistan, the United States Central Command (CENTCOM) has led a coalition of nations operating out of bases in and around the nations of Central Asia. The support of friendly Host Nations (HN) in the Central Asian region in providing access to basing and logistical support during the course of operations has been a key factor in the success of the operation to date.



Application of CENTCOM environmental policies during OEF has demonstrated that sound environmental management contributes to mission accomplishment by protecting the health of troops and has enhanced US/HN relations by conserving and protecting natural resources.

Although CENTCOM policies have stood up well during OEF, we recognize that there is always room to do better, and there have been several lessons learned during the past several months that are being incorporated into policy revisions. The bottom line to all environmental policy is to ensure the health and safety of U.S. and Allied forces and noncombatants, and to operate in a manner that protects natural resources and the environment.

Environmental Policy

CENTCOM environmental policies are designed to respond across the operational continuum from peacetime engagement to combat operations. It is rare for a conflict to arise between mission accomplishment and troop welfare on the one hand and good environmental stewardship on the other. Commanders must always engage in environmentally sound management practices. Hazardous and solid waste must be properly disposed of. Cultural and natural resources must be protected. Petroleum distribution facilities

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must be properly designed with secondary containment to prevent spills. If spills do occur, units must develop and be prepared to implement spill response plans. Water resources must be protected from contamination from hazardous substances and wastewater.

Whether in peacetime engagement or combat operations, environmental stewardship and “good neighbor policies” provide the foundation for the CENTCOM Environmental Program. Forward presence and access to Host Nation training areas and bases are key to the successful execution of the CINC’s Theater Engagement Plan. CENTCOM initiatives for pollution prevention, regulatory compliance, resource conservation, and environmental restoration support CENTCOM’s theater strategy.

U.S. law, DOD policy, Bi-lateral and international agreements and treaties, and HN laws go into the development of Final Governing Standards (FGS), which are country-specific guidance documents that prescribe the responsibilities and requirements for U.S. forces operating in that country. The FGS leads to component execution plans, directives, and instructions that are used to develop unit level directives, instructions, procedures, and policies. These are used to execute the day-to-day functions at the worker/planner level.

Department of Defense (DoD) Directives and Instructions provide guidance on environmental security, compliance at overseas installations, conservation, pollution prevention, remediation, planning and analysis, and environmental education and training. Joint Doctrine provides guidance when planning operations involving two or more services. The Overseas Environmental Baseline Guidance Document (OEBGD) is a DoD publication using U.S. environmental standards and is applied to all countries in the AOR without a published FGS. CENTCOM Regulation 200-1, Protection and Enhancement of Environmental Quality describes the CENTCOM program for environmental protection and enhancement and CENTCOM oversight of component environmental programs.

Coordination of Environmental Stewardship

In OEF, the success of the CENTCOM environmental stewardship concept has been the result of coordination and cooperation between CENTCOM, coalition partners, and host nations that have provided critical basing and logistics. CENTCOM cannot accomplish its mission

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without the cooperation of friendly host nations. In order to maintain that cooperation, CENTCOM works to comply with treaty obligations, respects the sovereignty of other nations, and follows with the FGS/OEBGD.

Coalition forces have participated in many operations with U.S. forces. As sovereign nations they are not required to adhere to U.S. policies, and the U.S. does not have authority to direct the environmental practices of these forces. But as the leader of the coalition, CENTCOM will encourage and assist them to engage in environmentally sound procedures.

CENTCOM service components and special operating forces execute environmental policies. Most of the environmental technical and administrative expertise resides at the component level. Once environmental policy is established, CENTCOM's role is in setting priorities and monitoring the status of environmentally related actions. Components have the responsibility to implement CENTCOM policies as well as those of their individual services, monitor compliance at the base and unit levels, and keep CENTCOM updated on a regular basis.

The Combat Environment

In combat contingencies the two major concerns of all commanders are the mission and the welfare of the troops. Both are almost always enhanced by concern for the environment. Troops that get sick because of environmental contamination cannot perform their mission. It is therefore in our best interest to engage in pollution prevention and be good stewards of natural resources whenever we deploy. U.S. forces must be environmentally proactive and work with coalition forces to mitigate environmental contamination affecting the health and safety of military forces and noncombatants.

Troop Health Protection

Because it is counter to mission accomplishment and troop welfare to deploy units in environmentally unhealthy conditions, CENTCOM strives to maximize the protection of health and welfare by applying the best practical and feasible environmental engineering and preventive medicine practices. The extent to which the best practices can be applied will depend upon conditions at each operating base.

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Various tools have been used during the planning and execution of OEF that have helped minimize the environmental risks to troops. In order to analyze the environmental factors affecting the deployment of forces, CENTCOM and its components have used aerial/satellite imagery during planning phases, preventive medicine surveys during reconnaissance phases, and environmental baseline surveys during deployment phases.

Success in environmental stewardship is not only in the planning and execution of operations. It begins long before deployment. During peacetime, units develop Standard Operating Procedures (SOPs) for operating in an environmentally sound manner under austere conditions. Unit-level environmental coordinators conduct training in environmental management, and units maintain and deploy with materiel to contain fuel spills.

When preparing to deploy for a contingency, assessments identifying environmentally unsafe or sensitive areas must be performed as soon as possible. These areas present operational constraints of which commanders must be aware when evaluating potential operating bases. Aerial and satellite imagery is analyzed for obvious environmental problems. Reconnaissance teams include preventive medicine personnel who assess health risks at alternative locations.

Once deployed, preventive medicine and environmental engineering professionals assess and monitor conditions. Preventive medicine personnel monitor the health of personnel and advise commanders on any potential health hazards. A safe and dependable drinking water source is developed by treating water through Reverse Osmosis Water Purification Units (ROWPUs) and then disinfected. Preventive medicine personnel are responsible for testing the water and certifying it for human consumption. Engineers perform an Environmental Baseline Survey (EBS) to document existing site conditions. Assessment and monitoring is continuous throughout the period of deployment.

As close as practicable to redeployment from a site, a final environmental conditions survey is conducted using the same format and, if possible, the same personnel that prepared the EBS. When re-deploying from an operating base, units use cost-effective, yet environmentally sound options to ensure that cleanup efforts are completed or contamination is documented, if required.

Prevent and Mitigate Environmental Damage

Requirements to cleanup or document contamination will be minimized if commanders consistently engage in environmentally sound prevention and mitigation practices. There are several areas of environmental concern, including wastewater, solid waste, medical/infectious waste, hazardous materials and waste, pesticides, and POL.

Wastewater is of two varieties: “Gray” water from mess, shower, and laundry operations, and “Black” water from latrines. Gray water contains little or no human wastes and is considered non-pathogenic. Where wastewater can be disposed of through contract services with local wastewater systems, all water is generally disposed of in the same manner.

In expeditionary or austere conditions where no wastewater treatment facilities are available, black water is handled through the use of portable toilets, slit trenches, or burnout latrines. Gray water is disposed of by drainage to a sump or leach field, sited to avoid commingling with the water supply source.

Solid Waste consists of non-hazardous waste products such as discarded paper, food, boxes, and cans. Solid waste is managed by establishing collection points at operating bases and disposing through existing landfills or contracted services. Field expedient procedures such as burning are limited to units in contact, unless no other disposal method is available. During OEF, bases disposed of solid waste routinely.

Infectious Waste is waste produced by medical, dental, and veterinary treatment activities such as: human tissues and body parts, human blood and blood products, and hypodermic needles and syringes. Infectious waste is incinerated. The resulting ash is then disposed of as solid waste.

Hazardous material is any material that, based on either chemical or physical characteristics, is capable of posing a risk to health, safety, or the environment if improperly handled, stored, issued, transported, labeled, or disposed of. Examples of hazardous material include oxygen and acetylene bottles used for welding, paints, and solvents used for vehicles and machinery. Units deploying with hazardous material must use proper packing, shipping, and storage methods and comply with all UN/US and host nation requirements.

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Hazardous wastes include discarded material that has the potential to be harmful to human health or the environment, due to its quantity, concentration, chemical, or physical characteristics. Examples of hazardous waste include used engine lubricating oil, hydraulic fluid, antifreeze, discharged paint cans, dead batteries, and oily rags.

Trans-national movement of hazardous waste is controlled by the Basel Convention. Nations receiving hazardous waste must be notified and approve any shipments into their country. The Defense Reutilization and Marketing Service – International (DRMS-I), a part of the Defense Logistics Agency (DLA), manages contracts for the handling of hazardous waste. For Operation Enduring Freedom, a new contract for disposal of hazardous waste generated by U.S. forces in the Central Asian States is being processed by DRMS-I.

Hazardous waste must be collected at approved accumulation points designed with secondary containment. Incompatible wastes are segregated to ease the disposal process.

Pesticides are chemicals used for the control of insects and rodents. When troops are living in expeditionary and austere conditions over extended periods, pesticides most likely will be used for pest control to prevent the spread of disease. Pesticides are applied by trained and qualified personnel on a routine schedule determined as a function of the health threat at a particular location. Pesticide usage records are retained in accordance with regulations.

Petroleum, Oil, and Lubricants (POL) must be stored in impervious containers. Expeditionary storage in fuel bladders is used when adequate permanent storage facilities are unavailable at an operating base. Secondary containment of fuel storage facilities is implemented. Bases must have a spill prevention/control plan and respond to significant fuel spills.

Environmental Hazards Encountered During Operation Enduring Freedom

Asbestos Roof Tiles. Several areas of one base were found to be littered with broken roof tiles. Testing of the material indicated that the material

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consisted of 10% chrysotile asbestos. There was a possibility that the broken tiles were releasing asbestos into the air.

Asbestos is a known human cancer-causing agent. If inhaled it can cause lung cancer. Smokers are at increased risk over non-smokers. Because of this risk, the following procedures are recommended when removing the broken asbestos tiles:

Wet the tiles on the ground. Once wet, workers should wear rubber gloves to handle the tiles. Workers should wash their hands after the work is completed. Institute air monitoring for asbestos in the vicinity of the broken tiles. Implement methods to minimize the dust level in the area. Declare the area off limits.

Buried Radioactive Waste. Soil samples taken in one location outside of the base perimeter revealed a radioactive substance scattered throughout a 300-m² area. The substance was determined to be uranium in the form of pellets and discrete pockets of yellow residue distributed throughout the soil. The uranium appeared to be not naturally occurring. The uranium in the soil poses two possible hazards.

First, uranium is radioactive. Uranium isotopes have relatively small radioactivity. Externally, the uranium poses negligible health risk. The health risk comes with the inhalation of airborne uranium, allowing the low-level radiation to be internalized.

Second, uranium is a heavy metal. When inhaled in sufficient quantities, the kidneys may be affected. The effect upon the kidneys is dose-dependent. Small doses may be entirely purged from the body without consequence. Larger doses may damage the kidneys.

Because of the threat to health presented by the presence of uranium, the following recommendations were made:

Implement continuous air monitoring. Declare the area off-limits. Properly mark and cordon off the area. Implement methods to minimize the dust level in the area, including paving roads adjacent to the site and capping the area with clean soil to prevent disturbance of the contaminated soil.

POL Contaminated Soil. At one base an earthen berm was constructed to establish a defensive perimeter. The earth to construct the berm was taken

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from trenches excavated immediately outside the tent city. While excavating, host nation workers using heavy equipment uncovered a discolored soil with a heavy petroleum smell. U.S. soldiers that were working and manning fighting positions on top of the constructed berm complained of adverse health effects from these petroleum odors. Reported symptoms included headaches, nausea, and stomach cramps. Once removed from areas directly adjacent to the exposed pit, personnel no longer experienced these symptoms. Additionally, as the berm was constructed with these same contaminated soils, personnel complained of unpleasant odors associated with both the berm material and the berm.

As a result, occupation of the tent city under construction was delayed until the contamination could be identified and health risks determined. Assessments were performed to define the extent of the contamination. The area was covered with a layer of clean gravel, and use of the area was limited to industrial purposes.

Unknown Existing Environmental Conditions

When moving into pre-existing bases that have been abandoned for several years, U.S. forces have encountered existing conditions including sinks filled with unknown corrosive liquids and abandoned solvent tanks.

Operation Enduring Freedom Lessons Learned

Many important lessons learned have been developed during the course of OEF, including:

- Engage environmental and preventive medicine personnel early in the process.
- Use technological resources to gather as much data in advance as possible.
- Require environmental involvement in pre-deployment site surveys.
- Require baseline surveys within 60 days of deployment to operating bases.
- Engage a Hazardous Waste disposal contractor early in the operation to expedite the disposal of hazardous waste from the operating area.

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Older electrical transformers were suspected of containing PCBs and present problems if found to be leaking. Until they can be categorized, these hazardous areas are placed off limits.

Conclusion

During Operation Enduring Freedom environmental policy has been directed toward the fulfillment of two objectives: to ensure the health and safety of U.S. forces, and to operate in a manner that protects natural resources and the environment. Successfully fulfilling these objectives has resulted in enhancement of mission accomplishment and conservation of host nation natural resources.

CHAPTER 6 - U.S. Interagency Processes Supporting Disaster Response

*Panel Moderated by
Mr. Curtis Bowling*

Regional Consequence Management Planning

Mr. Norm Smith

Cooperative Defense Initiative

Mr. Ronald P. Rook

Short Term Disaster Response Planning Issues

Mr. Michael J. Korin

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Introduction

Mr. Curtis Bowling

Assistant Deputy Undersecretary of Defense, Safety, and Environment

Why should the military support Civil Authorities? As we have discussed during this conference, military support to Civil Authorities is a perfect match for the military's natural leadership role, skills, structure, and ability to mass, mobilize, and provide logistical support. This type of support also compliments our force projection capability by placing our military specialties in real world situations and requiring them to respond rapidly to changing events.



In the United States the Secretary of the Army is the military's lead for military support to civil authorities and has the authority to task Army, Navy, Air Force, Marines, and Combatant Commanders, such as Central Command, for additional support. The Secretary of the Army has assigned a single office, the Directorate of Military Support (DOMS), to lead these efforts.

After receiving a written request for assistance, the Department of Defense evaluates the request against six criteria:

- Compliance with the law
- Potential for the use of lethal force by DoD personnel
- Risks to the safety of DoD personnel
- Determination of who will pay or the impact on the DoD budget
- Determination of impact on DoD's ability to perform its primary mission
- Determination of whether the mission is in the best interest of DoD to conduct

Typically the Secretary of the Army is the approval authority and has tasking authority over the services and defense agencies. However, the Secretary of Defense retains approval authority for:

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- Deployment of Chemical, Biological, Radiological, and Nuclear assets
- Military Assistance for Civil Disturbance
- Response to acts of terrorism
- Planned events with potential confrontation
- Use of lethal force

The U.S. military does not participate in a disaster response until asked, unless unique circumstances compel a commander to react immediately, prior to any declaration. This situation is called “Immediate Response” and is a reaction to imminently serious conditions that are beyond the capability of the local authorities to respond. The objective of DoD response is to save lives, to prevent human suffering, and to mitigate great property damage. Once initiated, the installation commander must inform the Secretary of the Army, the DoD Executive Agent, through command channels as soon as possible. It is anticipated that immediate response would be of short duration, reacting to an immediate situation.

When the U.S. military does respond, it is always in a supporting role to the lead civilian agencies and does not purchase resources that do not directly support our primary war-fighting mission.

The U.S. military involvement in disaster relief within the U.S. or one of its territories begins with a Presidential Declaration, which is issued, based on a request from the governor of one of our states or territories. The Federal Emergency Management Agency (FEMA) designates a Federal Coordinating Officer (FCO) to coordinate on-scene federal efforts at a Federal Disaster Field Office (DFO). When the military is called in, the direction of the Directorate of Military Support (DOMS) appoints a Defense Coordinating Officer (DCO) to coordinate all DoD support.

Military support plans, procedures, and activities are coordinated with FEMA and other civilian agencies involved in the response. Other Lead Federal Agencies (LFA) having responsibilities and operational authorities during a disaster are discussed below:

- Department of Justice (DOJ) is the Lead Federal Agency for crisis management within the U.S., its territories, and possessions; DOJ delegates responsibility for operational response to the FBI. The National Infrastructure Protection Center (NIPC), collocated with

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the FBI, has been charged with preparing a centralized database of critical infrastructure assets in the United States.

- Federal Emergency Management Agency (FEMA) is the primary Federal coordinating agency for disaster response and recovery activities, manmade or natural; FEMA is responsible for Consequence Management (CM) contingency planning.
- Department of Transportation (DOT). The U.S. Coast Guard (USCG), a branch of the armed forces within the DOT and possessing statutory law enforcement authority, is the Lead Agency responsible for maritime Home Land Security in waters subject to the jurisdiction of the United States. The Federal Aviation Administration (FAA) is responsible for the control of U.S. navigable airspace, to regulate civil and military air operations, and to provide for the security control of air traffic to meet national defense requirements, as well as lead agency for terrorist incidents that occur aboard an aircraft in flight.
- The Department of Health and Human Services (DHHS) is the primary agency to plan and to prepare for a national response to medical emergencies arising from the terrorist use of Weapons of Mass Destruction (WMD).
- The Department of Energy (DOE), in crisis response, the DOE supports threat assessment and search operations, access operations, diagnostic and device assessment, render safe operations, hazard assessment, containment, and relocation and storage of special nuclear material evidence.
- The Environmental Protection Agency (EPA) will provide technical personnel and supporting equipment to the Lead Federal Agency during all aspects of a WMD terrorist incident.
- Department of Treasury (DoTREAS). The U.S. Secret Service is the lead agency for security design/planning and implementation of anti-terrorism measures and counter-terrorism plans for National Security Special Events (NSSE). The U.S. Customs Service conducts border enforcement, enforces import/export controls, processes persons, carriers, cargo, and mail into and out of the U.S., and executes a wide range of public safety and quarantine matters.

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- The Department of Commerce (DoC). The Critical Infrastructure Assurance Office, an interagency entity housed in the Department of Commerce, is charged with developing a national plan for Critical Infrastructure protection.

Outside the United States, the U.S. Agency for International Development (USAID) under the Department of State is the lead federal agency for dealing with all foreign requests. A request for assistance is usually received at the U.S. embassy in the requesting country. The U.S. military involvement in disaster relief begins with a presidential declaration being issued based on a request from the Department of State. At the direction of the DOMS, the supported Combatant Command (Central Command for this region) appoints a Defense Coordinating Officer (DCO) to coordinate all DoD support. Today, in the aftermath of the earthquake near Nahrin, Afghanistan, organizations and military entities are able to help our friends, the Afghan people. Because of relationships and planning, they have been able to provide secure roads, environments, and land bridges, so that meaningful amounts of humanitarian aid can be brought to those in need. Mr. Rook will expand on this process during his presentation.

The U.S. military has nine standing domestic support missions.

- Domestic disaster relief operations
- Wild land fire fighting support
- Civil disturbance operations
- Support for special events
- Military assistance to safety & traffic
- Emergency animal disease eradication
- Support to immigrations emergencies
- Continuity of operations program
- Support to U.S. Postal Service

The military can assist in the emergency eradication of animal disease. In 1994, the military participated in efforts to eliminate a fruit-fly infestation in California and most recently, in tracking the spread of the West Nile virus in the eastern United States. The Military Assistance to Safety and Traffic (MAST) program provides aero medical evacuation to selected civilian communities. Army and Air Force medical evacuation units have flown over 100,000 flight hours since the program began in 1970. The military often supports federal wild land fire fighting efforts. For example, in 1996, over 1,200 active duty soldiers and Marines fought fires in California and Oregon.

DoD Support to Civil Authorities (FY 00 - 01)



In 1998, DoD provided support to FEMA and the national Interagency Fire Center during the Florida fires. Since 1975, DoD has support over 70 domestic disaster relief operations.

In addition to standing missions, the U.S. military executes other “directed” domestic support missions for DoD. These have included special events like the Olympic Games, Presidential Inaugurations, and the National Boy Scout Jamboree held every four years at Fort A.P. Hill (since 1981). In 1997, there were about 35,000 scouts and leaders, and about 250,000 visitors. We use this event as a public affairs opportunity and have invited all the services and the Coast Guard to set up displays and provide demonstrations.

The 34 U.S. military support activities in fiscal years 2000 and 2001 had a wide geographic distribution and varying scope. Not all are depicted here, but this gives you an idea of the types of things in which DOMS and the Secretary of the Army’s office have been involved.

I would like to reemphasize that the Federal Disaster Response is a tiered response. In the immediate aftermath of a disaster, local first responders are first on the scene. If the requirements exceed their capabilities, they request

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additional support from county and state agencies. State assets deploy to support the city's incident commander. If the state assets, including the National Guard, are not sufficient, the Governor may request federal support. The President may issue a Presidential Disaster Declaration. Federal response for Consequence Management, which may include a military role, is provided using FEMA's Federal Response Plan.

I would now like to talk about Hurricane Mitch. It may appear a little redundant to talk about Hurricane Mitch this year. After all, we had a very capable speaker talk about it in last year's conference. So why am I talking about Hurricane Mitch again? I have two purposes. First, this past May, I had an opportunity, in a conference much like this one, to talk to senior regional military, environmental ministers, and non-governmental organization representatives who actually had to respond to this disaster. They provided me a new context for understanding the magnitude and difficulty they had in responding to the disaster and the challenges to recovery and rebuilding. Secondly, I think the lessons learned have broad applicability, particularly in the development of regional response planning/preparedness, prevention, and mitigation strategies.

Just to set the stage, Hurricane Mitch was a tropical storm that was formed in the Caribbean around 21 October 1998. Over the course of the next five days it strengthened to a Category 5 hurricane with winds up to 280 Km/hour. But the main threat of Mitch was the heavy rain and the fact that it was slow moving. Mitch became the most deadly hurricane in the Atlantic in over 200 years. It pounded Honduras and Nicaragua, large tracts of El Salvador and Guatemala, and had lesser impacts on Belize and Costa Rica. In the end, Hurricane Mitch left 10,000 dead and over 3 million people displaced or homeless.

At the time that Hurricane Mitch developed, the Central American region was still recovering from the economic effects produced by the occurrence of 1997-98 El Nino, where floods, forest fires, and drought had stressed the economies and response capabilities in the region.

The date that disaster declarations were made closely follows the path of the Hurricane through the region. The U.S. Ambassadors declared disasters in Honduras and Guatemala on 27 October, Nicaragua and Belize on 29 October, and El Salvador on 1 November.

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Once a disaster was declared, a USAID/Office of Foreign Disaster Assistance (OFDA) Disaster Assistance Response Team (DART) was established and USAID/OFDA response activities began. Now, let's talk about the emergency response phase.

It appears that the earliest assistance from the U.S. Government was from the 500 troops stationed at Soto Canto Air Force Base in Honduras. The troops began relief operations even before the rains stopped and began to visit settlements to deliver medical care as soon as transportation was possible.

U.S. Southern Command, Central Command's counterpart to the region, established a Joint Task Force Bravo at Soto to assist the people of Honduras, which was one of the countries hardest hit by Mitch. There was other regional support from Howard AFB in Panama. During the Emergency Phase of the operations, through 26 November 1998, the U.S. military involvement included 2,100 troops and 45 aircraft, which flew over 2,000 hours. The military saved an estimated 1,000 lives, distributed 1,361 metric tons of food, 60 metric tons of medical supplies, and 455,000 liters of water.

Almost four months after Hurricane Mitch hit the region, the impact was still very visible. Tens of thousands of victims were still living in temporary shelters; roads and bridges were still impassable in many areas; mudslides and flooding resulted in complete disruption of water and sanitation systems; and the basics, such as clean water were in short supply.

The main needs were shelter, food, water, and medicine, but access to the affected populations was a problem. The U.S. military involvement in the rehabilitation phase of the disaster involved repairs to infrastructure required to re-establish national capabilities to provide for health and basic welfare of the populace. The infrastructure included wells, bridges, roads, and structures. There were almost 6,000 troops involved in this phase of the operation, with almost 150 aircraft and eight ships.

The "restoration" phase of response involved long term effort to permanently repair infrastructure, rebuild economies, and fully mitigate storm damage. The U.S. military during this phase repaired over 100 kilometers of roads, and numerous bridges and bypasses. USAID provided food, water, pharmaceuticals, and shelter to hundreds of thousands of people. It helped to rebuild water systems, roads, power plants, and other infrastructure. It is trying to strengthen the capacity of countries in the

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region to prevent and mitigate future disasters and to be prepared when they occur. Also, FEMA, NOAA, USGS, EPA, USDA, and CDC were involved in the relief efforts.

The response to Hurricane Mitch provided the U.S. military with good training for the units involved. It also provided some valuable lessons learned. For example, damage assessment was one of the most difficult and important parts of the operation. During the operation, it became apparent that response teams and information flow should be centrally controlled to improve communications and coordination. Also, multi-functional teams provided the best flexibility in the field and training additional troops to do the damage assessments improved the operation. Command and control that is built should follow the existing Chain of Command. We need to improve response planning, including logistical support. For example, at one point the movement of temporary bridging materials created a short-term problem. Good reporting minimizes confusion and keeps higher headquarters informed. Finally, insist on transition between teams as they move in and out of the region.

Perhaps the best lessons learned are from the regional perspective. Indeed, Hurricane Mitch was the largest Central American regional disaster in the twentieth century. Mitch unmasked the region's "response" shortfalls as one senior official said in last May's regional conference. The individual countries were woefully undermanned and under funded to take on such a response.

Mitch clearly illustrated the importance of disaster planning and the need to exercise the plans. Another senior official from the region pointed out the need to coordinate NGO activities. There were stories about some NGOs that took advantage of the situation and stepped out of line. Other NGOs, well intended I might add, rebuilt houses in the same areas that had flooded, or used inferior construction techniques that should have been revised after Hurricane Mitch.

Another official talked the "risk maps" that were used by the various organizations involved in the response. The "risk maps" were often not to scale, or didn't use the same scale. They often used different symbols that confused, and sometimes misled the local populations and support agencies. There was also a unanimous desire to fill technology gaps to take advantage of satellite images, river monitoring, etc., with the goal of improving early warning and evacuation planning.

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Prior to Hurricane Mitch, the Central American countries did not have a viable regional response plan or agreement. In some cases, they didn't have a clearly defined "national" response agency that was under centralized control. Some countries did not have a national response plan. These planning shortfalls were addressed.

However, Hurricane Mitch's catastrophic effect over the region brings to light the multi-threat quality of the region, where the processes of degradation of the environment, accelerated urbanization, and the constant armed conflicts experienced over a decade, increased the risk and vulnerability. Traditionally, disasters are seen as "interruptions" in the process of development and typically "restoration/reconstruction" focused on restoring the original systems impacted by the disaster.

It became clear to regional leaders from the identification and evaluation of the damage from Hurricane Mitch that restoration/reconstruction in this case should take a different course. What should the new course be? The regional leaders know that natural disasters are part of daily life and they are not going away. So if the region is to move forward with sustainable development, they must include risk analysis and the implementation of prevention, mitigation, and preparedness strategies specifically in the design of reconstruction projects and generally in all development projects to reduce future vulnerability.

According to officials at the conference last May, the region is trying to adopt a "culture of prevention." They are trying to change land use planning (stop people from living in flood plains), revising building codes (to produce safer houses and office buildings), reverse the deforestation, repair wetlands and watersheds, and introduce technology (satellite imagery, river monitoring) to improve planning, warning, and evacuations. In addition, they are trying to strengthen their capacity to respond when disasters strike.

Regional Consequence Management Planning

Mr. Norm Smith

Former Director, Pennsylvania Emergency Management Agency

It is a particular honor for me to have the opportunity to speak today at the George C. Marshall Center. General Marshall was born in Pennsylvania. As we look back at the history of soldier statesmen, we can find no one who is more prominent in the entire history of Pennsylvania than George Catlett Marshall.

I would like to speak a little bit about Pennsylvania and its history of disasters, both caused by man and by God. Pennsylvania is a state of about 12 million people, approximately the same as Bavaria. Pennsylvania has been the site of some interesting developments in the history of the United States, such things as Washington crossing the Delaware and Valley Forge in the Revolutionary War. During the American Civil War, when Lee's Southern Army was moving to the north toward Pennsylvania's Capital, Harrisburg, they were intercepted by Northern troops at Gettysburg and the course of the Civil War was turned around.

Pennsylvania has a history of such natural disasters as the Johnstown Flood. In 1889, a man-made dam broke and devastated the city of Johnstown. In fact, the American Red Cross was born because of the nature of the response to that particular disaster.

Pittsburgh was at one time the largest steel-producing center in the United States, and steel production techniques resulted in very bad environmental damage. Today it is a beautiful site, but they don't make steel there anymore. We have coal-mining regions in Pennsylvania, containing large reserves of hard and soft coal. While we were developing the mines, we were also destroying the ecology and the environment. Now we are attempting to restore the ecosystems and to limit the environmental impact of mining. Leaching from abandoned mines into the ground waters remains an environmental problem.

Pennsylvania is also a very large agricultural state. As you drove from Munich to this particular portion of Germany, it is very reminiscent of

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Lancaster County, a large agricultural area near the capital of Pennsylvania. We have had environmental problems there with animal wastes and fertilizers leaching into the ground water.

We have had historical problems that we might refer to today as domestic terrorism. The Ku Klux Klan was prominent in Pennsylvania shortly after the Civil War. Then there were the Molly McGuires, who were a form of terrorists and very prominent in Pennsylvania. There were problems with violent labor unrest in Pittsburgh. We've had mountain men. But I would remind you, in the current war against terrorism that the very first offensive action taken by anyone was by passengers aboard United Flight 93. This fourth plane, which was flying near Cleveland, had been turned around and was headed back toward Washington D.C. Aware that three planes had already been crashed, the passengers on this plane decided not to allow their plane to be used as a weapon. "Let's roll" was the expression they used as they went in and attacked the pilots and crashed the plane in southwestern Pennsylvania.

Today I am going to concentrate on our Three Mile Island experience. Three Mile Island is a commercial nuclear power plant that had a meltdown problem on March 28, 1979. Adding to the particular problem was a current and very popular movie called *The China Syndrome*. *The China Syndrome's*

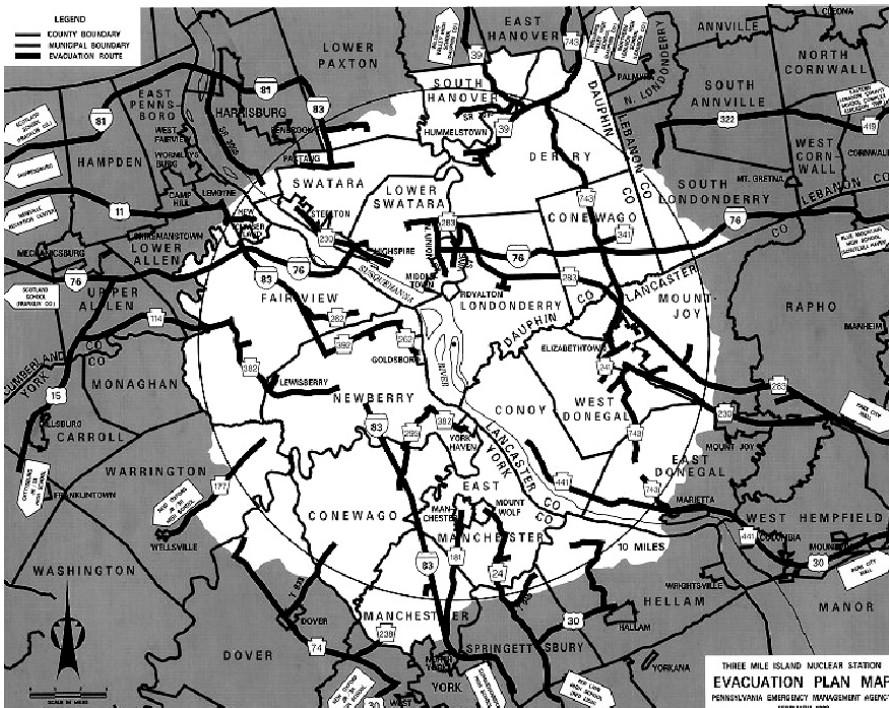


LOCATION OF TMI IN NORTHEAST UNITED STATES

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premise was that if a problem were to happen at Three Mile Island, for example, the meltdown would go all the way through to China, right through the center of the earth. So when we had the problem in March of 1979, it was one of those unknown situations. Nothing like it had ever happened before. We have five nuclear power plants in Pennsylvania and we have four other nuclear power plants just off our borders. But since that day in March of 1979, there has not been a new nuclear power plant opened in the United States. We had no casualties, no one died immediately because of Three Mile Island, but it caused a very large environmental pollution problem, and an environmental stewardship problem that we have had to live with ever since.

Let me show you a little more closely where we are on the United States. You will note on the map that Three Mile Island is very close to the blue circle around Harrisburg. As you think of the prevailing westerly wind patterns, you will notice New York City, Philadelphia, Baltimore, and Washington. Without strong prevailing winds at the time of the Three Mile Island incident



EVACUATION PLAN MAP AROUND THREE MILE ISLAND

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there was concern throughout a tremendous portion of the Eastern Seaboard of the United States. What is going on? What can happen? What has been released to the atmosphere?

This is zooming in a little more to show you the particular area around our capital, Harrisburg. You can see that Harrisburg and Three Mile Island are both on the river, and you can see the exact location of the plant, in the center, of what we refer to as the Emergency Planning Zone. That is our planned evacuation zone. In Pennsylvania we have a 10-mile Emergency Planning Zone and if we have a problem at a plant and we are going to evacuate, or take shelter, we are going to do the entire circle. We are not going to do a pie shape wedge, because sure enough, while the prevailing winds are from the southwest, the wind always changes direction, so we decided we would go 360 degrees, 10 miles for any problem at a nuclear power plant.

I also have a background as an Infantry officer who served in Vietnam. As Infantry officers, we thought that we always fought a war at the juncture of four map sheets. You had to paste map sheets together and sure enough that junction of four map sheets was where everything would take place, at the worst possible place for reading something in the rain. While not really noticeable on this map, when the Three Mile Island incident took place, it involved four counties. What we have displayed is the southeastern portion of Cumberland County, part of York County, part of Dauphin County. We also have a portion of Lancaster County and touching in that white area is even a fifth county, Lebanon County. You can see we drew a circle, but then we make an envelope and we go by geographic boundaries. We go by well-known roads or other landmarks. Some people really do not know where they live, even the United States, so we try to remind them that it is south of the Autobahn, not north of the Autobahn, that evacuates. So that is the area in which the evacuation took place and, of course, part of the state capital was within that nice little white area.

Therefore, this incident became a test of how we would respond. How would we work regionally? Now I am going to jump forward all the way from 1979 to what we do currently because it is based on what took place in 1979. It serves today as our response in consequence management, how we start off with the basic building blocks, build up, and work on a regional perspective.

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We started off from the beginning trying to figure out how we can do something that will be a building block approach, a life saving approach, and what we refer to as a Commonwealth approach. Yes, Pennsylvania is a state, like all of our other states. But going way back to the beginning, in the days of Pitt and Franklin, it was decided that Pennsylvania should be a Commonwealth. A Commonwealth basically means that power is reserved at the lowest level of government. So in Pennsylvania we have over 2600 independent municipalities without a hierarchical structure. Counties do not direct municipalities what to do. The state does not direct counties, and in turn the municipalities, what to do. This is a very poor way to do business when you are trying to pull together a response to a significant threat. So we had to find some way to overcome this obstacle. We had to find some way to establish some regional capability and to assign responsibilities

We started off with basic assumptions. Our basic assumption is that if we have a major disaster, whether that is a disaster of a magnitude of something like Oklahoma City, or the World Trade Center, or a massive flood, whatever, it is going to be beyond the capability of the resources of that county to respond effectively. We know they are going to need help. They are going to need help fast.

Extensive damage such as the World Trade Center attack is outside the capability of any of our counties with the possible exception of the city of Philadelphia, which is very large and has a lot of resources. When I'm talking about assistance, we are talking about the life-saving assistance, not the recovery that is going to go on for days, weeks, and months. But how do you get in, to protect property and save lives?



So the first thing we use is what we refer to as a Golden Hour. Someone, for example, is in a collapsed building and has beams lying on him or her. If we respond within six hours with special recovery teams, special medical teams, structural specialists, and other well trained response forces, we can probably save the life of the person who is slowly being crushed to death. We find that once we extend past six hours the survival curve goes down

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very quickly. So how do you attempt to get help someplace in six hours? That was the first concern at which we looked.

We have certain elements within the state that we believe can arrive any place in the state within four hours. For example, if we had a major explosion in Allentown, Pennsylvania, elements of our Urban Search and Rescue Task Force would be able to be on the scene and be effective in about an hour and a half. These are the people who size up the situation, how bad it is. They are not the people with the heavy equipment to extract casualties. They are not the people giving the medical assistance while people are still trapped in the wreckage, but we can deliver some assistance and we can get it there relatively quickly.

The next assumption we made is that because whatever the nature of the event may be, even an event as dramatic and as well covered as the World Trade Center, federal assistance probably will not get there in significant numbers until about eight hours after the incident. We will have to depend on people who are locally available. We will have people from our local Federal Bureau of Investigations and Federal Emergency Management Agency offices. They will be there and they will have their jackets on, but they are not going to bring with them heavy equipment or the assistance we need to do life saving for about eight hours.

Because of the Commonwealth nature of our government, with all power at municipal level, we do not have a very effective system of mutual aid. Some states have a very dramatic, well-organized, highly responsive system of mutual aid, where people from the state direct forces from municipal or county level. We do not have that and I have been told many times by the important people, like the Governor, we are not going to have that. We are not going to change our form of government.

So how do we find a way to improve a system of mutual aid in order that assisters can move from one area of Pennsylvania to another? While they are assisting we still need to provide the appropriate protection for them. When I was very young, a retired general from World War II told me, "You have got to do two things in life as you go out there. You have to accomplish your mission, number one. And you have to take care of your people." I'm afraid that the older I got and perhaps the wiser I got, I realized that if you don't take care of your people, you couldn't accomplish your mission. If you send people into environmentally challenging places, your mission is not going to be accomplished. If they do not have the proper gear,

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if there are not the proper people watching over those front line troops, you are going to lose your mission right from the beginning. So we wanted to make sure that under mutual aid, as we sent people from one area to another area, we provide responders not only the proper equipment, but we put adequate legislation in place to give them such minor things as workman's compensation as protection in the event they get hurt far away from the city that is employing them. This has developed into a significant problem.

So as we continued to organize a task force we asked each county to gather representatives of the various agencies and stakeholders that they would use during a disaster of this nature. Bring together your elected officials. Bring together your emergency management officials. Who speaks for fire? Who speaks for law enforcement? Who speaks for public works? This is your County Task Force. Again, we have a bit of a problem in this area because we do not really have someone who can truly speak for law enforcement at a county level. We may have a District Attorney, but they generally aren't proactive. They are most likely to say, "Bring me the culprit and I'll put them in jail." So we had to create these organizations. In some circumstances we have NGOs who are very willing to work, to help, and to contribute money. They need to become a part of this initial task force in the county.

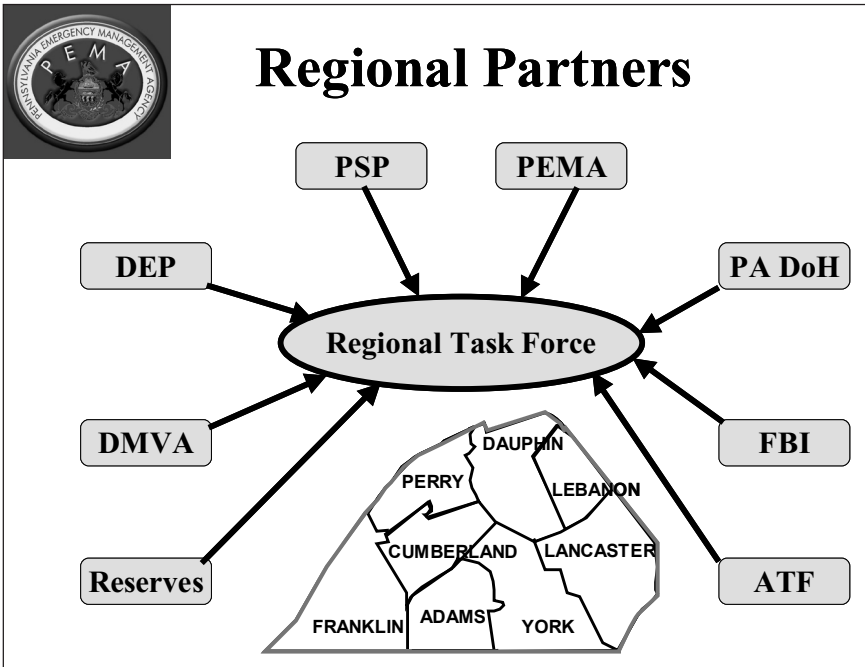
The next thing we wanted to do was to integrate the response between the Federal Government, the State Government, the County Government, and the Municipal Government. This is what we refer to as *Tiered Response*. You bring in your initial firefighters. You bring in your HAZMAT teams. You can bring in other assets and you keep on building and getting more capability, more sophisticated equipment, but you have to start with the base at the municipal level. You have to train your *chain of command* at that municipal level. Otherwise people will come to the scene and say, "Who is in charge?" If no one raises their hand, I can tell you that anyone in the United States wearing a uniform is generally willing to raise their hand and that is usually the wrong guy. The right person is the person in charge of that municipality. They have the ultimate authority within Pennsylvania, whether they are capable of handling it or not. Everybody else is there to advise, to assist and help work out the project so that as we develop the situation properly, we want Federal, State, and County response capability to work together from the beginning. I use the expression that we do not want to exchange business cards at the scene of the incident. We want to do that in advance. We have to know these responders. We have to know

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their capabilities and what are their limitations. Whether someone can do something or not is not the point; however, it is self-defeating to turn to them in a crisis to find out.

Next, we wanted to find some way to develop a Regional Response capability so we could assemble teams from a multi-county area. Maybe a team comes from this county, but since we have few of them, they are going to have to be able to move around. We need to vary our funds to make sure that we build a sufficient capability across that multi-county area so that the people can move to the need. I'll give you a very minor example. Most of our people in Emergency Medical Services are not capable of going into what we refer to as a 'Warm Zone.' If we have an incident with either a chemical or a biological agent, it means only people in the fancy moon suits are going to go in there and do all the work. They have to find out the cause. They have to bring out the dead. They have to bring out the injured. They have to do the decontamination. If we can provide training and equipment to our Emergency Medical people, four different teams can be strategically located in the area, and told to go into any warm zone. You will help with any decontamination. Thus we have dramatically improved our capability. When you think of the number of potential disasters we could have where we are concerned about something inside an area, we must have enough people at that level of training and equipment to go in immediately to bring out our casualties. We seek a way to institutionalize our mutual aid in the region. To find some kind of a legal basis to enable people from Philadelphia, who are paid and compensated by Philadelphia, to go to a distant part of Pennsylvania. If emergency response teams have to go to Punxsutawney, what legal entity gives them their coverage? This is a significant problem.

We wished to establish the Standing Regional Response Group. We have several response groups. We have an Urban Search and Rescue Task Force at the State level. We have one of the initial Civil Support Teams, which has been developed by the National Guard. These organizations can provide excellent assistance but are not there to relieve local authority of their responsibility. Do not assume or expect the team chief will say, "I'm here to take over." I would hate to see our third civil support team go into the city of Philadelphia with their expertise in hazardous materials spills and say we're here to tell you how to run the show. Local authorities need their assistance but they don't need the team to say they'll be in charge. So we work on this incessantly. Of course, we want to encourage what we refer to



as regional networking, just getting to know where the expertise is located. If we have someone in Southeastern Pennsylvania who is an acknowledged expert on something, we want to spread that expertise around the state. We want to disperse it. And when the crisis comes, we want that individual to be there, bringing his expertise and everyone else knowing that he is an expert in hazardous materials.

So our basic structure is that we have a group of counties. The counties themselves determined the regional groupings. These are the natural partners, and you will notice they are the same basic partners who dealt with the Three Mile Island example. These are the counties that were involved. They were involved in Three Mile Island in 1979 and in a major flood we had because of Hurricane Agnes in 1972. They were involved in a prison riot that took place in one of the counties in the late 1980's. They were involved in the major snowstorms and floods that we had in 1996. They are natural partners, just like the Central Asian States are natural partners. But that doesn't mean they really wanted to cooperate. My premise was to give the funds to them as a partnership. So the funds I get from the state, the funds that I get from the Federal Emergency Management Agency, the funds

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that I get from the Department of Justice, go to this Regional Task Force, and they in turn must decide how those funds are to be spent.

Working with the task force are the various agencies that you see here. If we have a resident agent from state or federal government in the area, we ask them to come to the monthly meetings of these task forces. So the Alcohol, Tobacco, and Firearms; the Federal Bureau of Investigation; the Pennsylvania Department of Health; the Pennsylvania Emergency Management Agency; the Pennsylvania State Police; the Pennsylvania Department of Environmental Protection; the Department of Military and Veteran's Affairs, which is our National Guard; our Military Reserves; our NGO's; anyone who has a regional or state responsibility in that area comes to these meetings. The most recent meeting I went to was in Allegheny County, which is in the Pittsburgh area in the Western portion of the state. We had 145 people there. Every time we have new people attend, this, in itself, represents success. We're bringing more people together to jointly discuss a common problem. We have the funds to use and the decision on how to use the funds is not going to be made by the state. The state decides how much money goes to that task force and provides basic broad categories for which they may use those funds. Sometimes the state imposes restrictions or discipline to the process, but the regional task forces are the ones to decide how to allocate



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funds for planning, for exercises, for training, or for equipment. It is their responsibility. They have bought into this project.

In Pennsylvania we have established nine Regional Counter-Terrorism Task Forces. We're very proud of our progress in developing these task forces. Our former Governor is head of Homeland Security and he's quite well aware of the nine Counter Terrorism Task Forces. He's also quite aware of one other innovation we created.

At one time we had developed a series of thresholds to go from one threat to another, whatever it may be. Maybe it is a threat of an impending hurricane, of an impending snowstorm, or of an impending terrorist activity. How do we crank up our organization to meet that threat? We had developed four levels, going from four to one. They were usually based on information that came from the Federal Bureau of Investigation. The United States Office of Homeland Security has now established a five level color-coded system, from green, to blue, to yellow, to orange, to red. Again, it is what we must do throughout the civilian sector of our society to prepare for any potential incident. You've noticed the signs on this building about what defense condition, or DEFCON, the military is at. The threats and the threat levels drive the DEFCON.

In order to find out what kind of progress we are making in the task force the state Emergency Management Agency conducts workshops. For example, we went out to senior officials in cities, townships, and municipalities and asked them to bring in their primary staff, got them into a room, and gave them an exercise about a chemical terrorism incident. We've done similar exercises with biological terrorism. Again, we're using this as part of counter-terrorism but this is something that is not unique to terrorism. How do you respond to some kind of a problem such as a hazardous material spill in downtown Pittsburgh? How do you pull disparate groups together and march in the same direction toward a common goal? We were particularly concerned about what would happen in a major event such as New York City or Oklahoma City where the Federal Government would descend with all kinds of response teams. How are we prepared at the local level to establish a command structure so when these other people showed up we would still be in charge? We ran a series of what we refer to as Unified Command Workshops—trying to remind the local firefighter that he, in fact, might be in charge no matter how many colonels or generals may be on the scene. It's his town, not theirs.

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Based on what happened in the United Kingdom last year with problems concerning Mad Cows Disease and Foot and Mouth Disease, we began a series of exercises that concerned agro-terrorism, bioterrorism in the agricultural field. What do we do, how do we respond when someone from the agricultural sector might be in charge? Interesting concept.

We are currently offering a workshop that is based on some inquiries we had from the federal government of bringing a national pharmaceutical stockpile into an area in the event of a major biological or chemical problem. The federal government would bring the stockpile in but then it's up to the local officials to accept the stockpile, distribute it, disseminate it, and push the little pills into the little bottles. Where will all of the necessary help come from during the crisis? If there's a crisis of a biological nature, how are our emergency responders going to respond, do we know? Are they going to go home and take care of their families? Who do we inoculate first? We know that in a major incident we are going to have a problem that gets national concern. The president will become involved, his staff will become involved; everyone will become involved. The thing I have to preach is regardless of what happens, whether it's a disaster or whether it's terrorism, the problems are local in nature. That's where we have to be prepared to respond to, from the very bottom level, to be prepared to handle that disaster at the local level.

Cooperative Defense Initiative

Mr. Ronald P. Rook

United States Central Command

U.S. Central Command's Cooperative Defense Initiative is a combined effort of USCENTCOM and the Office of the Secretary of Defense. The goal of this initiative is to enhance deterrence against the use of Weapons of Mass Destruction. The current term is Chemical Biological Radiological Nuclear and High Yield Explosives, or CBRNE. In addition, we're attempting to enhance the host nations and coalition partners in their ability to operate and prevail in a contaminated environment should deterrence fail.

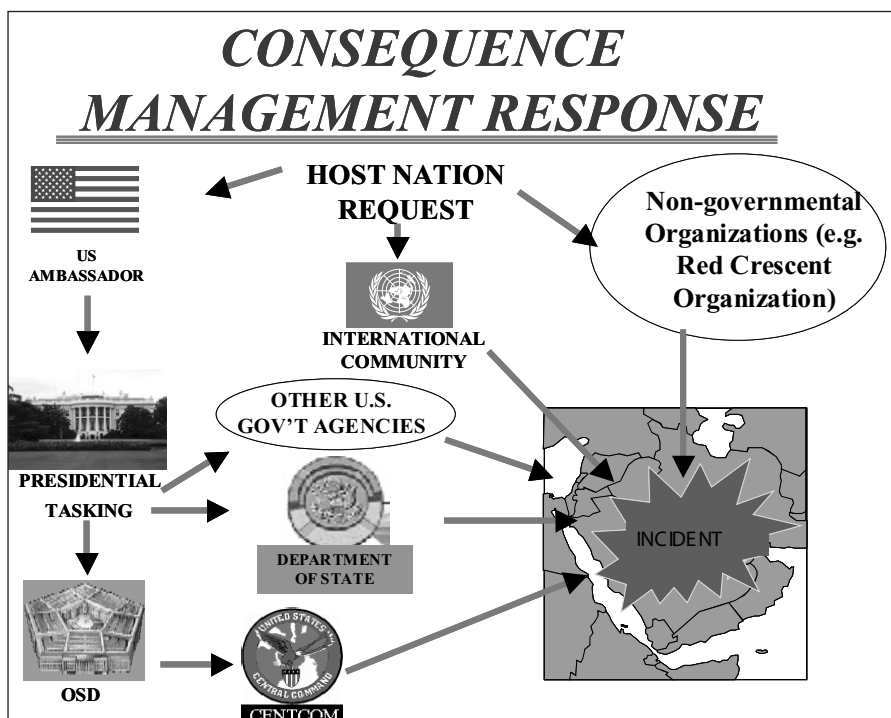


Currently in our USCENTCOM Cooperative Defense Initiative program, and specifically in Consequence Management (CM), we work directly with the six Gulf Cooperation Council countries. In addition, the Gulf Cooperation Council states have always invited Egypt and Jordan to participate. So we specifically work with eight nations with Consequence Management. Consequence Management under the Cooperative Defense Initiative is one of the five pillars. The other four pillars include the Theater Air Missile Defense, Nuclear Biological Chemical Passive Defense, C4I (which is command and control of communications, computers and intelligence), and medical counter measures.

What is Consequence Management? It's those services and activities required to manage and mitigate problems resulting from the deliberate or inadvertent release of chemical, biological, radiological, nuclear materials, or high yield explosive weapons (CBRNE), or a natural disaster or industrial accident.

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What does it require? It requires specialized hazardous materials- HAZMAT- handling, decontamination, urban search and rescue, and medical efforts, in addition to traditional disaster release efforts. When we go into a country, we have to be invited in through the U.S. Embassy for that particular country. The embassy forwards the request to the Department of State (DOS) who determines whether or not it's valid for us to be going in. DOS goes to the President who directs DOD to support the Department of State. The Department of State is the lead federal agency for all foreign Consequence Management efforts. USCENTCOM is merely in a supporting role. If we go in with a Joint Task Force for Consequence Management, there's no doubt the Department of State is in charge. We're merely in a support role. My particular briefing does not address the joint task force Civil Support operational forces that will go in, but it concerns the training and exercising we do with the various host nation's Consequence Management personnel in order to enhance their CM capability.



US INTERNATIONAL CONSEQUENCE MANAGEMENT RESPONSE

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In an incident that requires Consequence Management the host nation has several options available to them. They can request Non-Governmental Organizations to come in and give them assistance, and most of the time they do. If they want U.S. assistance, again they go to the Embassy of the country that they're in, who goes to the State Department, who goes to the President, who goes to the Department of Defense, who directs, in this case, USCENTCOM to provide forces in the form of a Joint Task Force Consequence Management.

We have three goals and objectives in our Consequence Management Training and Exercise program with the host nation. We want to enhance their Consequence Management response capability. We want to enhance the abilities to integrate host nation military, civilian, and international assets at the national, operational, and tactical levels to respond to a CM incident. Ultimately we want to achieve wartime Consequence Management coalition interoperability--interoperability between the various countries. The advantage that this program gives to us at USCENTCOM is that by enhancing the capabilities of the host nation with respect to Consequence Management, it allows us to know what their capabilities are and, by working with them, their limitations; but more importantly, we don't have to bring in as many resources as we otherwise would have because they're prepared. They have been trained and they have been exercising. So it's mutually reciprocal. It benefits both the U.S. and the host nation. We are able to identify their Consequence Management points of contact before hand, not after the incident. We're able to work with them to establish a harmonious relationship. We exercise and train with them so that when an incident does occur everybody knows everybody and we're ready to go to work.

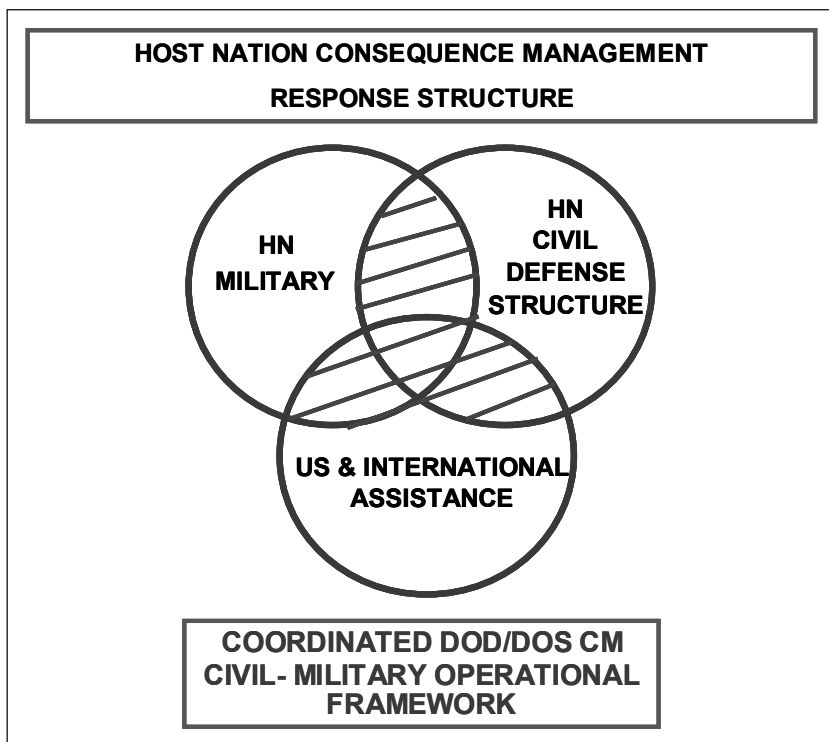
Our near term incident objectives include insuring the survival of the maximum number of people through prompt decontamination and medical treatment. We want to contain, clean up, and dispose of contaminated material and debris. We also want to reestablish self-sufficiency and essential services as quickly as possible. The long-term incident objective is to repair or replace the damaged infrastructure and regenerate economic activity.

The primary responsibility for Consequence Management is, in fact, the host nation's where the incident occurs. If the United States is asked to go in, the Department of State is the lead federal agency for the United States Government. Obviously, international non-governmental organizations may be asked and will have some responsibilities when they arrive. The host nation

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does rely on its allies and friends, and we are friends with all these countries. That's why we're probably going to be asked to provide assistance.

In August 2000, a Gulf Air Airbus 320 crashed off the coast of Bahrain with 143 casualties. The host nation, through the embassy, requested support from NAVCENT who provided immediate support on the scene. Thus United States Naval Forces Central Command provided a great service, which has been mentioned to me on the many occasions as I've talked to the Bahrain Consequence Management officials. They've even indicated so much as that any exercises that we do in the future with them that they want us to ensure that NAVCENT plays in those exercises. So there is a great harmonious relationship between NAVCENT and the host nation. That's the type of relationship that we're looking for and seeking. If we are asked to go in we can be asked to go unilaterally or as a part of multinational force. Either way it requires the President's specific approval, working through the Department of State, for the USCENCOM to bring in forces.



USCENCOM FRAMEWORK FOR CONSEQUENCE MANAGEMENT

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This is our framework for Consequence Management. It's something like the framework displayed earlier. It involves the host nation's military; the Civil Defense, which plays a major role in Consequence Management, not just the military; and then the U.S. and international assistance from other organizations, and so forth. It's all meshed together in one common goal, to assist the host nation.

The focus of our CM program is to enhance the host nation's CM response readiness. We want to identify and optimize their use of national resources and develop a coordinating national CM response mechanism that's been articulated by many individuals as a need for a national response plan. One of our major efforts is for each of the host nations to develop a national response plan and then we exercise that plan. Then we want to make sure they synchronize the civil and the military efforts together on Consequence Management. What we're trying to do regionally is to enhance the overall region by enhancing the individual state, the host nation. Then their capability could handle CBRNE incidents, natural disasters, and wartime interoperability.

This is the end state for which we're looking. We want them to be able to effectively counter a CBRNE incident or a national disaster, and also be able to assist their coalition partners, not just taking care of their host nation. We'll discuss how they're planning to do that later.

There are two parts of the five pillars that are not within Consequence Management, but play major roles within Consequence Management. The medical counter-measures and the military medical force must be involved in any CM training exercise with the host nation. What's going to happen is that they're going to quickly become overwhelmed. As has already been brought out by several presenters, they're going to need the military of the host nation, not just the civil defense Consequence Management officials. They're going to need U.S. military medical decontamination and management. A civilian casualty is the same as a military one, so it crosses over very easily. In a CM incident, civil medical authorities will be quickly overwhelmed and the military will have to come in with their capabilities. Therefore, the military medical force will play a major role in any CM incident.

With respect NBC Passive defense, NBC being Nuclear Biological Chemical, it's both the final step in deterring the CBRNE incident and one of the first steps in Consequence Management. Our experience indicates

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that forces trained in NBC operations serve as a deterrent to a CBRNE incident. They actually deter incidents. In the event of an actual CBRNE incident, trained forces are better prepared to continue the operations in a contaminated environment and to conduct detection and decontamination procedures.

We have a five-phase strategy to establish a Consequence Management program with a partner. We start by conducting an assessment of host nation Consequence Management capabilities. Subject matter experts go into a particular country assessing what the host nation has, where they have short falls, what training they have, and what training they need. From there we go through the five phases. It's a multi-step process. It's driven by operational requirements. Host nation interagency participation is the key. It's coordinated and controlled by a bilateral steering committee and bilateral working group from USCENTCOM and the host nation being bilateral. We work it together. We then improve interoperability in a CBRNE environment as our overall objective. When we go in and do the assessments with the concept development conference, we conduct with the host nations, we provide them a self-evaluation checklist. They can go through this checklist on their own to determine what they have and what they don't have, and what they should do and what they shouldn't do. We also provide them a draft of a generic five-year Consequence Management plan. They take that plan and work it themselves with our help and over a five-year period they go from A to Z on their Consequence Management program. So they are not in the dark as to how they should proceed in the future. It's their plan so they can modify it any way they want but we give them a draft generic plan.

The first step after the assessment is not a part of USCENTCOM's program, but it parallels their program. Department of State has a Counter Terrorism section that conducts a crisis response Consequence Management senior level policy workshop. This workshop is conducted by the Department of State and it's conducted for the ministerial level for high-ranking individuals. The purpose of going to them first is to sell them on a program so that they can push it down to the subordinates at the operational and tactical level.

Next we conduct an USCENTCOM tabletop exercise. We let the host nation pick the scenario. It might be a CBRNE incident, or it could be some type of terrorist incident, or it could be a national disaster.

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Next there is first responder training that's also conducted by the Department of State. They own that program, it's not a part of our program, but it parallels ours and it is conducted by the Department of State's antiterrorism assistance section. That training is primarily conducted at the action officer level for first responders of military and civilian police, fire department, and medical personnel. It is a very good program and they do a really good job with it.

Next is the host nation led exercise. USCENTCOM conducted the first exercise—the host nation actually leads the second one. They choose the scenario and we assist them with that exercise. The main thing that they are accomplishing in that exercise is that they're validating, testing, and exercising their draft national response plan. This forces them to draft a plan and to exercise it.

The fifth and final phase is a multilateral sustainment phase that is ongoing. It never ceases; it is iterative. We continue to work with them conducting exercises on a routine basis as well as bring them back in the future to some conferences, sending people to the U.S. for training and Consequence Management as well as some correspondence courses and so forth. So we go from A to Z. Some countries that we work with are through the fourth phase. Others are on the second phase with a CENTCOM-led exercise.

The USCENTCOM led exercise, fully funded by CENTCOM, is a three-day exercise. We focus on the concepts and principals of Consequence Management. We examine the common civil military command and control coordination structure and procedures required to conduct CM operations. This exercise facilitates several military discussions because the civil parties are in there, not just the military. We assist the development of a coordinated national CM response plan. It also assists in the identification of host nation CM capabilities as well as their resources and shortfalls.

This list depicts whom we recommend to participate in both the initial USCENTCOM led exercise, and the subsequent host nation led exercise. The main point here is that it is for the mid-level, action officer level echelons. It covers the gamut of agencies, OSD level as well as Department of State, who bring in a lot of people to conduct it and spend a lot of money on it. But it's worthwhile.

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Recommended HN Participation (HN participants should be from the mid-level/action officer echelons)

- **Ministry of Interior**
 - Civil Defense
 - Fire Department
 - Security/Police
 - Fire/Hazardous Material (HAZMAT) Handlers
- **Ministry of Defense**
 - Plans & Operations
 - Medical Corps
 - NBC Defense Corps
 - Military Police
- **Other Ministries**
 - Ministry of Health
 - Ministry of Information
 - Ministry of Foreign Affairs
 - Ministry of Communication
 - Ministry of Public Works
 - Ministry of Commerce
 - Ministry of Social Affairs
 - Ministry of Public Affairs
- **Non-governmental Organizations (e.g., Red Crescent Organization)**

We recommend that the host nation invite the following U.S. organizations to enhance the exercise:

- **USCENTCOM**
 - J3-Exercises
 - J5-Plans
 - NBC Passive Defense

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- Medical Counter-measures
- Public Information

- **Defense Threat Reduction Agency (DTRA)**

- **Chemical Biological Incident Response Force (CBIRF)**

- **U.S. Joint Task Force – Consequence Management**

- **Embassy**
 - United States Liaison Office
 - Political-Military Office
 - Regional Security Office

- **352nd Civil Affairs Command (CACOM)**

- **Contractor Support**

As you can see it's quite an array of people going in to conduct these exercises. It covers the whole gamut of anything that you might be confronted with in Consequence Management. The 352nd Civil Affairs Command is heavily involved with us now and has been for the past couple of months. We are very fortunate to have them because they bring a lot to the table.

Next is the fourth phase, which is the strategy phase, which is a host nation lead exercise. Again, they choose the scenario. More often than not they want to exercise a natural disaster, as they tend to believe it's more probably than a CBRNE incident. Even though it's a host nation led exercise, it is fully funded by USCENTCOM. One of the things that has come out of the Consequence Management exercise, as well as exercising the other four pillars during the annual Eagle Resolve exercises, is the need to establish a regional coordination center so that all the nationals can come together. If they have an incident in one nation, the other nations can assist. That was what was alluded to earlier in one of the presentations, the need for centralization of control in the event of an emergency. It is envisioned that what would happen is each host nation would establish its own national regional coordination center (RCC). If an incident occurs in one particular country, another country would activate their regional coordination center

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and invite people from the other nations to send in a CM cell to that RCC. That way all the host nations are represented in one regional coordination center. Therefore, they know what their resources are. They've been practicing together during the Eagle Resolve Exercises and know each other. Therefore, when an actual incident occurs and they need to bring in resources, all the host nations are there and they know what their capabilities are, and they know what they bring to the table. They can work back with their host nation and have those requirements and resources sent in. That's the ultimate goal of our CM program, to establish a regional coordination center that consists of cells from all the host nations.

We believe that USCENTCOM has a very proactive, aggressive program with the host nations. We think we've made a lot of progress in the last couple of years. We've a long way to go but we're making headway. This program is now primarily for the six Gulf Cooperation Council countries plus Egypt and Jordan, a total of eight nations. We are studying expanding into the Central Asian states, so at some point in the future we will be working with the CM representatives from the Central Asian nations.

Short Term Disaster Response Planning Issues

Mr. Michael J. Korin

United States Agency for International Development

The U.S. Agency for International Development (USAID) is a federal agency established in 1951, as a follow-on to the Marshall Plan. It receives its overall guidance from the U.S. Department of State. USAID is currently undergoing a major reorganization. We have four pillars that I'd like to briefly describe and give you some examples of the kinds of things that we do.

The first pillar deals with **humanitarian assistance, conflict management, and democracy**. Let me say a little bit first about democracy, and conflict prevention, and management. Our goal is to promote free and open societies, to give individuals and minority groups an opportunity to speak up. We promote transparency and an independent press. What we like to do is to have a society where individuals can be free to speak, to say what they want to say, and to make their contribution. In conflict prevention and conflict management we try to identify where the tensions are. Are there ways that they can be resolved before conflicts form? When conflicts do take place what can we do to help societies come out of them, to develop stability to get back on the path to development? A good example of the latter is the case of the Balkans where there has been major fighting for the last few years. USAID has played an important role in trying to bring about the return to normalcy in the region. I think all of you will appreciate there is a long way to go before we see the end of it.

Economic growth and agriculture also includes the environment and education. The kinds of things we attempt to do here are to promote economic changes that will foster growth in the economies. These may be restructuring banking policies, restructuring macro sector policies, encouraging policies that promote trade and foreign investment, changes in pension policies, or inviting foreign investment in the country. These are activities that will be attractive to others to come and invest and know that they're going to be able to gain a profit or at least leave when they want to leave under terms that are mutually agreeable. When we talk about agriculture we're looking at how to reform agricultural sectors so that they

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are modern. In this region it includes privatizing agriculture, opening them up to agricultural inputs, to the latest in agricultural technology, access to agricultural markets, whether they are domestic or foreign, and improving agricultural processing. With regard to the environment, there are different activities that we're engaged in. Of more particular interest in this area are going to be issues related to water, power, and energy. We've funded a number of studies. We've assisted the restructuring of some of the ministries that are involved in dealing with issues relating to water, power, and energy. With regard to education, this is a new area for us. The emphasis will be primary and secondary education. Many of us who have been around in development for years see the pendulum swinging back and forth. Agriculture education used to be very popular with the agencies that I worked for many years ago. Then we got out of them and natural resources became very important. Now the pendulum is swinging once again back into agriculture. We're getting back into education. Many of use believe that most of the societies that we are working with are primarily agricultural based; their agriculture is very important for the economies.

Global health is another area that is extremely important, particularly in the former Soviet Union. The reason is that the social sector systems that support it have pretty well collapsed. Social services that may have been quite good, in general, in the past have collapsed. What we're looking at now are abortion rates that are some of the highest in the world. We're attempting to support programs that will reduce maternal deaths and programs that will improve child welfare and care. HIV/AIDS and tuberculosis are extremely high, reaching epidemic portions in the region. The highest gross infection rates in the world have been in this region.

Global development alliance is a new area in which we're getting involved. This is primarily working with foundations such as Ted Turner's Foundation, the Soros and Ford Foundations, and other philanthropic organizations. Universities, PVOs, and NGOs, try to orient and draw attention to the plight of many of the countries that we know or in which we work or live, to get more investment there. They will direct it to key areas of concern to you and to us. What we hope to do is to provide some seed money or experiences that will cause others to direct their investment into these areas. Years ago most of the funding that was going into economic development and humanitarian assistance abroad was from the public sector. That has changed greatly over the past few years. I heard recently that about 70% of the money going into primarily economic development is coming

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from private sources, no longer government sources. We are becoming a smaller player.

In any case, that's a quick overview of USAID and the kinds of things in which we are involved. We're not doing all of those things in every country. We are doing things in countries where we think we have a comparative advantage, where the countries want us to work, where there are needs, and where other donors are not actively engaged so we're not duplicating one another.

When you look at USAID's organizational structure you will find four bureaus related to the four pillars. There are also four regional bureaus in the agency. I'm in the Europe and Eurasia Bureau. There is a Latin American Bureau, an Africa Bureau, and an Asia Near East Bureau. The geographic bureaus increasingly provide oversight of our field missions but are doing less and less with individual programs. Most of the program activities out of Washington are being handled through our central bureaus. The most relevant bureau to today's conversation is the Bureau for Democracy, Conflict Prevention, and Humanitarian Assistance. In that bureau there are two offices, the U.S. Office of Foreign Disaster Assistance and the Office of Food for Peace.

Our USAID missions operate in most of the countries where USAID is active. In the Central Asian Republics we have a regional mission based in Almaty, Kazakhstan, but there is representation in each of the region's countries. There is a strategic plan developed for each country where we have an aid mission. The mission, with input from the country, usually outlines what the mission expects to accomplish for the next three to five years. Those plans are reviewed and, when approved in Washington, provide the mission a mandate to carry out the program and most of the authorities to do so. Funding is on an annual basis and may be shifted, reflecting how much can be accomplished. The work in the field is coordinated with our missions, government organizations, NGOs, PVOs, and with other donors. We try not to do things in a vacuum.

In the arena of humanitarian assistance, the Office of Foreign Disaster Assistance has the major responsibilities for saving lives, alleviating the suffering of disaster victims, reducing the economic impact of the disaster, supporting prevention, mitigation, and preparedness activities. The Office of Foreign Disaster Assistance (OFDA) is the focal point within the U.S. government on the civilian side dealing with international disasters. It

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has responsibility to coordinate the humanitarian response for the U.S. government. OFDA provides technical assistance. It also has such physical commodities as blankets, tenting or plastic sheeting, water containers, and medical supplies.

The Office of Food for Peace program has a very similar mandate. The main difference is that it's a smaller office. It does not have the staff resources or the same mandate as the Office of Foreign Disaster Assistance. It provides food support, primarily U.S. agricultural excess commodities such as wheat, flour, rice, and other things of this nature. To give you an idea in terms of resources, Food for Peace has about \$850 million a year. Half goes for economic development activities and half to disaster response. The Office of Foreign Disaster Assistance has a budget of about \$160 million a year, all for disaster response with the exception of a small amount for disaster preparedness activities. The Office of Foreign Disaster Assistance should be and could be involved in some of the country disaster preparedness plans that you and your colleagues may be working and would be invited to some of the seminars that speakers have mentioned in the past.

I want to make a distinction between FEMA and OFDA. FEMA is a very good cooperating partner of ours. It has responsibility for the U.S. and its territories while, generally, OFDA deals with foreign or international incidents.

When a disaster occurs the U.S. government, through OFDA, may respond if it's beyond the capacity of the affected country, if the affected country wants U.S. assistance, and it's in the interest of the U.S. government. In some cases, countries don't wish to accept foreign assistance for political reasons. In some cases, they have the capacity to deal with the crisis themselves and there is no need for us to respond.

OFDA has a number of response options, which depend on the nature and the size of the disaster. If it is something that is not terribly serious it has regional teams, which may deploy some staff. If time permits it could deploy an assessment team to go out, look at the problem, and see what type of response will make sense from the U.S. standpoint as well as that of the host country government. These teams would work with the host country government, other donors, and PVOs in the field, funding implementing partners directly. These may be CARE, IOM, or others on the site doing relief activities. Imagine that a disaster strikes, such as an unexpected typhoon. As an example, OFDA may authorize using CARE. CARE has

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X thousand tons of wheat flour in its warehouse. Use it to feed the victims and we will reimburse you. It is an immediate response. The U.S. Embassy could be authorized to provide a check for \$50,000 immediately. This is a small amount, but sometimes it can go a long way to show that donors are trying to respond to a disaster that has taken place.

I have already mentioned disaster relief commodities and finally, but not least, the Office of Foreign Disaster Assistance could deploy a disaster response team. That's an indication that the disaster is 1) serious and 2) longer term. It may consist of a team of specialists; it may be a team consisting of medical staff from the Center for Disease Control. It may be people coming out of Miami Day or Fairfax County Fire Control with rescue dogs, such as in an earthquake to look for victims. These elements are going to be on the ground for an extended period of time.

We worked very closely with international organizations and NGOs in implementing our disaster programs. They're essential. OFDA and Food for Peace do not have the staff to go out and physically do the disaster response. They can coordinate, they can plan, they can provide technical assistance, but they can't be on site giving shots or handing out food. The implementing partners provide local experience. They also have quick response capacity. Some of them are already in the area. I'd like to go back to CARE and IOM because they are participating with us in the conference and we've been dealing with them for years. We know what they can do. We have mutual confidence in one another. They operate in dangerous environments. We also look to them as well as our other counterparts to do sustainable activities to help us transition from a humanitarian phase to longer development, assisting the transition into something better.

OFDA has a Military Liaison Office. We believe that we have a very close relationship with the U.S. military and it's vital to our mandate. This indicates just what we think is part of their strategic role providing airfield operations, heavy lift, and engineering. Also on the list are hands-on personnel. The U.S. military has helped us with everything from immunizations to providing security to transporting equipment. We have planners from the U.S. military who work closely with us. If a hurricane is coming into an area, we're in close contact with the military.

When incidents occur stakeholders could be the disaster victims. It could be the U.S. military. It could be a relief organization working on behalf of the U.S. government. In this case, we have the Red Cross delivering relief

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commodities. An important element of relief is having local military provide security. If you don't have security, particularly in a disaster situation when there are a lot of commodities around, undesirable things could happen.

The international relief community is a very large one. From our perspective it can include the U.S. Embassy, USAID mission, the Washington USAID geographic bureau such as I'm in, the Europe and Eurasia bureau, the Department of State, the Department of Defense, the Department of Agriculture, and other government agencies, the National Security Council, EPA, United Nations, humanitarian agencies, other international organizations, PVOs, and NGOs. Of course, all of these must work closely with host country governments and counterparts in local organizations. I hope this further impresses the discussion that took place about the importance that host countries take the lead in developing a disaster plan. The host country must take the lead in helping to coordinate disaster assistance.

I think many military hands are familiar with the term "fog of war." I'm told that there is a lot of similarity between "fog of war" and situational "fog" when a disaster takes place. You have a host country with its needs. You have a host country attempting to respond. You have non-government and PVO organizations out there. You have donors coming in. Often times there's no leader.

The challenges that we face are some of same things that have already been discussed. We're talking different cultures. It's not just an American talking with somebody from Central Asian Republics; it could be a New Yorker talking with a Texan on how to deal with these cultures, entering in different philosophies on how to deal with relief. We have different philosophies within my own agency on how we should go about the aspects of relief. Therefore, we can expect it to happen between the U.S. military and us, or between our host country counterparts and us. Who's in charge of what? Strategies are not defined. Integrated planning and priorities are usually not well defined. When it comes down to the involvement of foreign expatriates there is a critical point when you have a change of personnel. You may have somebody from the U.S. who is quite good but is only there for a week, a month, or two months, and they are gone but you still have the

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disaster. Then this person has to transfer his knowledge or responsibilities to somebody else who doesn't know.

Lessons learned coming out of this:

- 1) Effective action requires long-term understanding of the situation and of the impact of short-term actions.
- 2) The more complex the situation, the more challenging to create a shared vision and a common sense integrated strategy—who is going to do what.
- 3) A clearly designated central authority makes the delivery of humanitarian assistance more effective.
- 4) Emergency assistance should enable people to protect livelihoods as well as meet their immediate needs. This means involve them in the process, give them jobs to do so they can earn money and buy food rather than become dependant upon a donor.
- 5) Provide an exit strategy as quickly as possible, or a means to phase into development—transition out of the humanitarian stage.

There is a website that is particularly good for transwater issues that deals with the database for water agreement. It's maintained by Oregon State University and it has copies of virtually every water agreement that has been signed worldwide that is across the border. www.thewaterways.com

Finally there is a website for our USAID information center. www.dec.org. It has a wealth of information.

The best way to contact us is to go through the USAID mission in the field. If it's not readily accessible, go to the U.S. Embassy and ask how to contact USAID or go to the website.

In summary, I want to say that we are here to help. Disasters happen, and to the extent you want to have USAID involved, let us know.

CHAPTER 7 - Crisis Management Exercise

*Introduction by Exercise Director
Professor Bernard F. Griffard*

Scenario One: Lake Sarez Disaster

Discussion: Captain Beibit Makhtayev,
Kazakhstan

*Scenario Two: Mailuu Suu Uranium
Contamination*

Discussion: Mr. Bolotbek Aidaraliev, Kyrgyz
Republic

Regional Planning

Discussion: Professor Shavkat Arifkhanov,
Uzbekistan

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Crisis Management Exercise

Professor Bernard F. Griffard

Exercise Director

The Central Asia Republics are challenged by two realities – the existence of environmental conditions that would allow a serious man-made or natural environmental disaster to quickly overwhelm national response capabilities, and, though identified, a lack of resources that would allow mitigation of these conditions. Therefore, it is critical that opportunities be provided for the key disaster planners from each of the Republics to work together as often as possible. This CMX provided an excellent venue for such cooperation and resulted in a free exchange of ideas between the participants.

The first six conference sessions addressed a wide range of environmental security, consequence management, and regional disaster planning issues. These discussions set the stage for the Crisis Management Exercise (CMX), a simulation that addressed the planning and execution of national and regional responses to environmental crises in the Central Asia region.

The objective of the exercise was to provide conference participants the arena to:

- Identify national resources available for regional disaster response and consequence management,
- Examine opportunities for multi-lateral and inter-agency cooperation,
- Discuss methods for strengthening working relationships between regional government agencies, and
- Highlight critical environmental security issues that will benefit from resource sharing by donor countries and international donor organizations.

Exercise participants acted as representatives to an ad hoc regional organization brought together to address the impact of a major disaster. Three workshop groups were designated from among conference participants. Representatives of the Central Asian and Caspian Basin nations

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comprised the majority of workshop group members. The remainder of the workshop group was drawn from NGO, IO, international development, academic, scientific, and the subject matter expert community present at the conference.

Dr. Nina Rosenberg and Dr. Richard Knapp of Lawrence Livermore National Laboratory facilitated the workshops that addressed the Lake Sarez and Mailuu Suu disaster scenarios. Mr. Wolfgang Krajic, an experienced humanitarian relief planner, facilitated the regional planning workshop. One representative of each of the three workshop groups discussed their findings in a plenary session at the conclusion of the conference.



The events portrayed in this exercise are fictional and are written solely to provide a vehicle for the participants to investigate existing and potential interagency and international processes. They do not reflect the views of any participant government agency or of the United States Government.

Scenario # 1: Lake Sarez Disaster

Background

Lake Sarez was formed as a result of an earthquake in 1911 in the Pamir Mountains of eastern Tajikistan. An enormous landslide blocked the Murgab river valley and created the Usoi Dam. In the ensuing years the valley has filled with water, forming the 60 km long, 500-meter deep Lake Sarez. At a height of over 550 meters (1800 feet), the Usoi Dam is the world's tallest dam. (*The world's tallest man-made dam, the Nurek Dam, at 300 meters (1000 feet), is also in Tajikistan.*) The water level of Lake Sarez is approximately 3,200 meters (10,500 feet) above sea level. The altitude and volume of this lake, coupled with the regional propensity for earthquakes and landslides place the populations living along the Murgab, Bartang, Pyandj, and Amu Darya Rivers at risk of devastation in the event of subsequent landslides, dam failure, or terrorism that may result in a sudden release of water at Usoi Dam.



LAKE SAREZ

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The international community became aware of the hazard posed by the Usoi Dam in 1997 and 1998. In 1999, the United Nations International Decade for Natural Disaster Reduction (IDNDR) conducted a detailed risk assessment of Lake Sarez. This scientific evaluation found that a complete or partial collapse of the of the Usoi landslide dam was unlikely, but that partial collapse of the unstable right (North) bank into the lake above the dam and a subsequent surge wave over the top of the dam remains possible.

Situation

June 1, 200X. The regional drought conditions of the late 1990's and early 2000's broke in the previous year and are now history. Reservoirs have filled to seasonal levels and above average precipitation in agricultural regions downstream have temporarily resulted in an increase of water flow into the Aral Sea. The winter of 200X proved to be particularly cold and wet in the Pamir Mountains, although precipitation was light and temperatures were normal to the southwest in the Hindu Kush. Not since the record year of 1969 has so much snow and rain fallen in the region. As a result, snow packs in the mountains are high and the cooler than average spring season has delayed the peak snowmelt several weeks into late spring. Lakes and reservoirs throughout the Amu Darya watershed are full and runoff in the watershed continues to increase as the snowmelt season progresses.

June 2, 200X. The cool weather has given way to a sunny day and a warm wind from the Southwest. Temperatures in mountain valleys of eastern Tajikistan have soared into the 25-30 C. range (77-86 F.). Seismic monitoring stations within Tajikistan and Kyrgyzstan have detected faint vibrations, and geologists have attributed these reports to avalanches caused by snowmelt. Residents of villages and towns along the Murgab, Bartang, and Pyandj Rivers observe the seasonally rushing waters with concern and fear of mudflows and landslides. The weather forecast predicts another warm day tomorrow.

Some villagers decide to temporarily move to the homes of relatives that are farther away from runoff and potential mudslides.

June 3, 200X. Residents of the mountain kishlaks (villages) of Irkht and Ramaif are awakened in the predawn hours to their homes shaking and a rumbling sound from the north in the direction of Lake Sarez. A major

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earthquake has shaken the Gorno-Badakhshan region. Mountain slopes on the North bank of Lake Sarez have collapsed.

At the same time villagers living in the Bartang Valley below Usoi Dam feel the earthquake and hear numerous avalanches of a mix of snow, rock, and mud in the ravines and on the slopes draining into the Bartang River. These local avalanches cause the ground to shake and sweep portions of several villages into the Bartang River. Villagers watch as several homes are washed away downhill. Now their attention turns upriver.

The rock fall into Lake Sarez has been massive. A two-kilometer wide portion of the mountainside has collapsed into Lake Sarez. The ensuing surge wave created by the rock fall has overtopped the lowest portion of the Usoi Dam, and now a wall of water and mud is roaring down the steep Murgab and Bartung Valleys toward lower ground. Low-lying villages are erased from the landscape. The remaining population of eastern Tajikistan is wide-awake and waits the dawn.

Discussion presented by: Captain Beibit Makhtayev, Kazakhstan

Group 1 included the representatives of Azerbaijan, Armenia, Tajikistan, Uzbekistan, Georgia, and Kazakhstan, and our esteemed experts Mrs. Rosenberg, and Messrs. Peterson and Korin. For two days we worked on the Lake Sarez Disaster exercise.

As Mr. Azizbekov, Tajikistan's representative, stated earlier at the conference, Lake Sarez represents an enormous potential hazard if the natural Usoi Dam collapses, and that collapse could cause a great natural cataclysm that would do tremendous damage to the region's infrastructure and environment.

Our discussion delineated the scale of that natural disaster. It would affect four countries: Tajikistan, Afghanistan, Uzbekistan, and Turkmenistan.

In the scenario, the destruction zone is 134,000 square kilometers with two million inhabitants. Much of the damage will be to infrastructure, i.e., 20 bridges, 5 plants, almost 200,000 homes, 10 power stations, 3 airports, and the water, electricity, and gas supplies. The irrigation system will also

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suffer major damage. Regions of those countries sow mainly cotton, and the irrigation system there is highly developed.

We also determined how long the impact on the infrastructure and environment would last. The impact would, indeed, be long-term.

Governmental structures, including various departments and national structures, will be enlisted to deal with the aftermath of an environmental catastrophe. These are, firstly, the Ministry of Emergency Situations, the Ministry of Health, and the Ministry of the Interior. The military will, of course, also play a major role in dealing with the catastrophe's aftermath. Also enlisted will be the governments of other countries that express a desire to assist and non-governmental and international organizations such as the Red Cross, the UN, the Refugee Committee, and others.

We also identified measures and resources to reduce the environmental threat, that is, what measure we should take to prevent this catastrophe.

First of all, local bodies and neighboring countries need to be notified when the catastrophe occurs. We believe those countries' governments can be notified in a timely manner through the Ministry of Emergency Situations.

The potential disaster zone will need to be evacuated. The military will play a major role here since some equipment will be used, for example, aircraft and military hardware to transport people, as well as to create the necessary living conditions for the population in the disaster zone, such as tent cities, food, water, etc.

It will be very important to clear roads and remove debris after a natural disaster. Simultaneously, experts should be assessing the situation to generate long- and short-term cost-effective proposals.

One country, in this case Tajikistan, can handle notification of local agencies. The Russian military, Tajikistan's Ministry of Emergency Situations, and Russia's Ministry of Emergency Situations in Afghanistan will be called upon to evacuate the disaster zone.

The assistance of other countries and international organizations on a bilateral basis for each country will be needed to create livable conditions for the population.

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We tried to identify potential donors that could possibly offer assistance. I think that the countries where an environmental catastrophe is possible should first do preliminary work with them to evaluate what actual assistance they could give in the event. We would like to find out what technical assistance they could give and to assess what has happened. Long-term plans will, of course, play an important role. It has already been suggested during the discussion that we simulate a catastrophe, that is, do computer modeling of the scale of the catastrophe.

Engineering, for example, will be very expensive. This will involve, first of all, reinforcing the dam, building tunnels to drain the lake, and reinforcing the dam's lower portion. This is, of course, very expensive and so we will have to do research to reduce expenses. We will, therefore, have to implement an early warning system, determine evacuation routes ahead of time, put up information warning signs, and set gathering points ahead of time.

When I mentioned donors I wanted, on behalf of our group, to ask the CENTCOM representative present a question. Since the anti-terrorist action in Afghanistan is still under way, will CENTCOM also have an interest in having pontoon structures deployed and debris cleared away quickly to enable further aid to reach Afghanistan even during the anti-terrorist campaign itself? I think they can answer this question later.

It was also suggested during the discussion that pontoon bridges be positioned in Tajikistan ahead of time, in reserve, so as not to bring them from somewhere in the event of a catastrophe but keep them somewhere in reserve. I think this matter should be explored further, namely for our Tajik friends.

Allow me to bring to your attention our conclusions on how to coordinate our countries' efforts to manage the crisis. We suggest creating a regional crisis response center as well as studying potentially dangerous situations ahead of time, developing scenarios for interacting with non-governmental and international organizations and other countries, and preparing and finalizing common emergency response plans in advance.

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Question: Can you point out on the map the area that you saw as the flood damage area?

Answer: If the dam collapses, water will surge into the area here along the River Pyandj and onward along the mouth of the Amudarya River. A large area of destruction will be here. Infrastructure, such as bridges and roads, will be destroyed, along with a lot of debris; and people may be made homeless, approximately two million people. That, of course, is why all these three countries, as well as other countries in the region, should cooperate to reduce the threat of such a catastrophe.

Question: How long would the entire flood sequence take in terms of days according to your group's estimation?

Answer: We estimated two to three days. But the environmental impact will be long lasting because if factories, plants, and agricultural bases for livestock are destroyed, all that will spill over and negatively impact the environment. It will therefore take a long time to eradicate the environmental hazard.

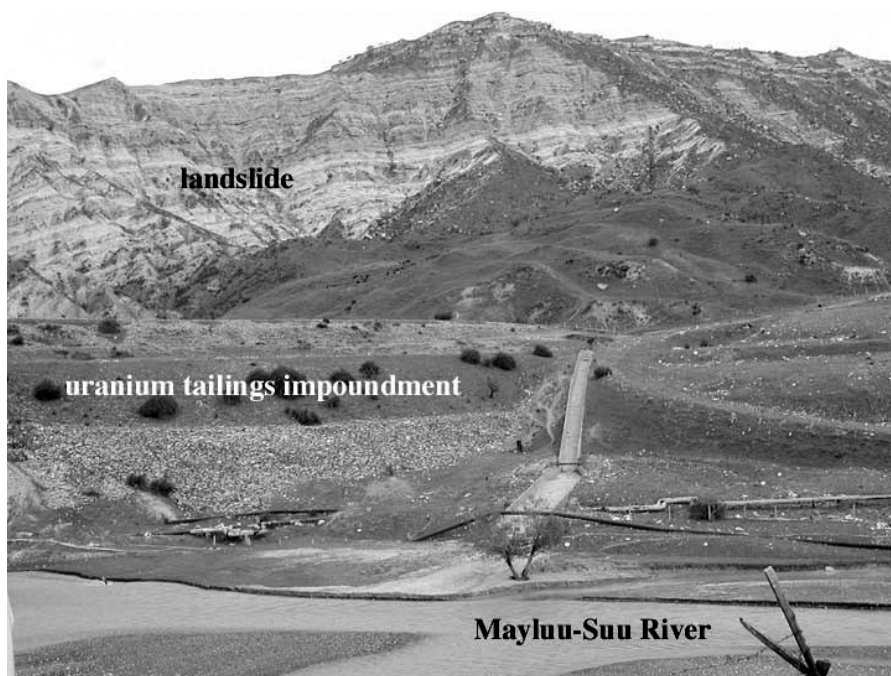
Question: The recommendation for the natural disaster management center, was this going to be a regional organization that would provide clearinghouse information with international organizations for the region, or was this focusing solely on Tajikistan?

Answer: As we saw it, the regional crisis response center could be based on the Central Asian Cooperation Organization, but there are other alternatives as well.

Scenario #2: Mailuu Suu Uranium Contamination

Background

The village of Maili-Suu (pop. 24,000) lies in the narrow valley of the Mailuu Suu River in the Jalal-Abad oblast, in the foothills of the Tien Shan Mountains of Kyrgyzstan. The Mailuu Suu River flows south towards Andijon, Uzbekistan, and then meets the Syr Darya, which courses west through the highly populated Ferghana Valley. During the period 1946-1958, the Kyrgyz Mining Company operated an extensive uranium-ore mining operation in the area. Today, the compact valley at Mailuu Suu contains 3.2 million cubic yards of radioactive waste, collected in 13 dumps and 23 tailing ponds. The vulnerable location and condition of these waste sites alongside the Mailuu Suu River places large segments of the heavily populated Syr Darya watershed at risk.



TERRAIN AT MAYLUU SUU RIVER, KYRGYZ REPUBLIC

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Situation

Spring of 200X. Unusually wet winter weather has filled lakes and reservoirs and created a deep snow pack in the higher elevations of the Tien Shan. This abundance of water provides hope for the region's often drought stricken agricultural economy, but excessive moisture in the ground also means that many fields are too wet to support tractors during the planting season. Mountain streams, including the Mailuu Suu, are roaring with snowmelt runoff. The month of April begins with sunny skies and unseasonably warm weather.

2300 hours, April 5, 200X. A late-night maintenance employee at *Isolit*, an electronic insulator firm housed in part of the former uranium extraction plant, steps outside for a cigarette. He sees that the water cascading down the steep hillside adjacent to the factory is overflowing its usual course and is eroding wider channels in the drainage ditches and streams flowing down to the river below. The snowmelt runoff has become a torrent.

On the mountainside above the plant a potential landslide approaching 200,000 cubic meters has been looming for years; recent rain and snowmelt have made the slope markedly unstable. Fears of an avalanche are always greatest this time of year.

0430 hours, April 6, 200X. Residents of the town of Mailuu Suu awaken to the shaking of what is unmistakably an earthquake. As the initial shaking subsides, those now fully awake hear a low, loud, rumbling noise. Watchmen at the *Isolit* factory rush outside and identify the source. The steep mountain slope has collapsed, dislodged by the earthquake, and the rock fall has plummeted into one of the old tailing ponds lying at the base of the mountain. The force of the landslide has damaged the tailing pond, and large amounts of the water-saturated waste has been pushed into the raging Mailuu Suu River. This particular pond is known as Tailing 3 and it contains an extremely high level of radioactivity, representing up to 60% of the emissions of the combined 23 tailing sites and 13 dumps of uranium in the vicinity. Tailing 3 is estimated to originally comprise 110,000 cubic meters of this highly toxic waste, and at this hour the erosion has washed a significant portion away.

1300 hours, April 6, 200X. The immediate earthquake damage appears to be limited to parts of the Jalal-Abad oblast, Kyrgyzstan, between the Naryn and the Kara Darya Rivers. Several thousand homes and buildings

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have been severely damaged and initial reports estimate fatalities caused by the quake at nearly 500. Kyrgyzstan officials appeal for international humanitarian assistance for the homeless and the injured.

1430 hours. Within ten hours of the landslide and resulting contamination of the Mailuu Suu waterway, construction workers have begun to stem the leakage at the spill site. They are using excavators, trucks, and bulldozers to reinforce the banks of the pond and the adjacent river with rock fill. However, Kyrgyz officials arriving on the scene from Osh estimate that 40,000 cubic meters of waste has slid into the river. Scientists report that harmful chemicals contained in the radioactive material, such as thorium-230, radium-226, and arsenic, will render the water undrinkable, precipitate massive kills of aquatic life, and may even damage crops. Estimates place the contamination spread in the waterway to a point between the urban centers of Andijon, UZ (pop. 348,000) and Namanjan, UZ (pop. 422,000), near the junction of the Mailuu Suu and Syr Darya Rivers. The contamination is expected to continue to flow through the Ferghana Valley, reaching the Kayrakkum Reservoir along the Uzbek-Tajik border within the next 24 hours.

2100 hours. Police and government workers have spent an exhausting evening fanning throughout the Valley, warning residents of the Syr Darya's contamination. Kyrgyz government officials have also notified Uzbek and Tajik authorities downstream. Water tests conducted by scientists from the Andijon State Medical Institute revealed that high water levels have not diluted the contamination components to the level officials had hoped. Health authorities are concerned that large numbers of villagers will appear at local health clinics in the days ahead.

2300 hours. Authorities in both Tashkent and Bishkek issue heightened alerts to their security forces throughout the Ferghana Valley, spurred by concerns that the region's militant groups could use the civil disruption caused by the contamination to foment unrest. Officials in the three nations apprehensively wait for morning, anxious to see what further humanitarian, security, economic, and environmental challenges this catastrophe will bring.

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Discussion presented by:
Mr. Bolotbek Aidaraliev,
Kyrgyz Republic

The subject of our group's exercise was Mailuu Suu in Kyrgyzstan, which has a population of 24,000. The situation is complicated by the fact that two types of natural disasters could occur there: that is when – scenario one - according to exercise scenario data, there is a natural disaster, an earthquake, and the earthquake causes the tailings from the dumps in Mailuu Suu to reach the river, resulting, evidently, in two natural disasters. The first, the earthquake, would cause 500 casualties and destroy more than 1,000 homes in Mailuu Suu. Impacted by the earthquake, the uranium waste in the tailing dumps would enter the river and then go beyond our borders and reach Uzbekistan.

Our group's actions in the situation was based on a specific example. The first scenario is at the local level. Immediately following the impact, we must inform the public and that system exists at the local level. We would inform the public that they have to evacuate immediately. What resources does Mailuu Suu have for that? Mailuu Suu has a transportation service, an engineering service, and a Ministry of Defense battalion with material and means of conveyance. At the onset, urgent measures will be taken at the local regional level to evacuate the civilian population to a safe location.

The second scenario has a uranium background. It exceeds the standard and so, first and foremost, we must evacuate the entire population of the town located in the area.

The second phase of our action would be to notify our government, Kyrgyzstan's government, and the regional services that must respond to the emergency in the region.

Also, since this matter affects neighboring countries, the same information goes to the government of Uzbekistan. This interaction was worked up at the previous training exercises, so Uzbekistan will enlist all services in the Andijan and Namagan regions, will enlist all services, which must, first of all, perform radiometric monitoring and identify the affected zones, and then determine what resources to use for the evacuation.

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That is the government of Uzbekistan. At our level, we plan to use available resources to temporarily evacuate our citizens from Mailuu Suu to the nearby town of Kochkorata and so on, all the way to Jalalabad.

Here on the map is Mailuu Suu; here the Mailuu Suu River enters the Kara Darya, and traverses Uzbek territory. These are the Andijan region and Namagan region. Later it enters the Syr Darya and, via the Syr Darya, to the reservoirs, and then it flows to Kazakhstan.

So what is the situation? We now have to notify Kazakhstan and Uzbekistan right away.

Priority measures at the Kyrgyzstan government level to be enlisted are the entire Ministry of Defense, Ministry of the Interior, health care services, and traffic safety services since those being evacuated must be given priority to evacuate to a safe location; and we must call out scientists to determine the uranium content in the water and air, which, if it exceeds the permissible standard, we have to take measures later, such as to evacuate the entire population located along the water resources' flow direction.

We estimate that major environmental damage will be very problematic. We think that since Uzbekistan and Kyrgyzstan use irrigation water for household purposes, this also represents a public hazard.

These are the priority measures in this area. We must use scientists along the entire stretch. Evacuation is carried out in twenty-four hours, and a full assessment is made the next day. We must use scientists from Uzbekistan and Kyrgyzstan to determine the uranium content in the water and air.

Further actions. To deal with the natural disaster of the earthquake in Mailuu Suu we would use our own resources, construction contractors that can clear away the debris, make roads passable, and ensure safety.

The second stage primarily occurs on the Uzbek side of the border. We have to determine the degree of contamination of the arable land that uses irrigation water and of the water resources. If we take the worst-case scenario, the total damage along these rivers and water arteries, we need to evacuate approximately 500,000 people.

If you take that scenario, the damage would, of course, be colossal. But our group decided to also determine the degree of contamination in the uninhabitable locations. We decided to evacuate approximately 200,000

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people and, in order to do that, we enlist transportation and other resources at the level of the two governments.

We faced another difficult issue: How do you move 200,000 people to other populated areas? Given a typical feature of Central Asian regions, these populated areas being in close proximity, with the scientists' help we will make a determination and evacuate people to different towns. Later, having been temporarily evacuated, when scientists and other forces, the armed forces, have been enlisted to determine if those areas are usable, some of the people can be returned to their former residences.

Because the situation impacts a vast territory, our assessment was that after some time no more than 40,000 people in the affected areas would be subject to evacuation. The remainder of the people who had been evacuated will be returned to their dwellings. The Uzbekistan Ministry of Emergency Situations and Kazakhstan's Emergency Situations services will carry out radiation monitoring along the entire length of the water arteries.

A governmental committee will work in these regions for two days, assessing overall damage, the damage done to the countries' economies by the earthquake as well as the uranium waste.

We estimate that damage from an earthquake in Mailuu Suu would total around \$60,000,000. In addition, the whole water supply system in Uzbekistan will have to be changed; there is farmland and so on there. Of vital importance is water supply for the entire engineering network. Under these conditions they would be rather unfit for use so the damage here would be greater; we estimated approximately \$120,000,000. But we estimated the environmental damage caused by the uranium waste at several hundred million dollars because of the effect on people's health. We estimated damage to health and agriculture, which will require deactivation and other measures to ensure safety.

Using the observation and calculation method, we therefore concluded that damage from this environmental problem would be several hundred million dollars.

We discussed interaction between countries. We determined that each side involved would use its own resources, which will be used by the Uzbek side for its own country, and the Kyrgyz side will use its own resources. But our countries' resources are extremely inadequate, which is why our

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group also decided to appeal to international donors and Russia for specific assistance in the situation, since the uranium waste is a leftover from the former Soviet Union. We recommend that as many Russian resources and technical resources as possible should be brought in. And later we will appeal to other communities and international donors for aid, probably to rebuild, first and foremost, the more than 1,000 damaged homes, as well as the agricultural land in Uzbekistan.

In this regard, our group also identified which communities, unions, and banks to contact because the situation would soon be irremediable without international resources and donor aid. The environmental outlook, as you all know, is a very complex process that requires a certain amount of time, but the priority must be to recultivate the land immediately.

There are 23 tailing dumps here, which is why our group also decided to appeal to the Russian government to prevent future catastrophes and ensure the safety of the population of our regions, the Central Asian region, and to enlist the resources of Russia as well as other communities. Overall, the scenario shows that if a catastrophe occurs in any Central Asian country, it will affect the other republics as well.

The previous speaker suggested that some kind of regional body be created. This body does exist, the Central Asian Intergovernmental Committee, and I therefore think that an emergency situations agency should be set up to become involved and assist the countries.

Question: Did you have an estimate of how long the contamination situation would remain and the effect it would have, even if we were successful in dealing with most of the contamination as soon as possible after the event?

Answer: Environmental pollution, as you know, involves how long it takes uranium elements to decompose, which is why our group identified the priority, which is to restore arable land. We also thought that the water supply networks would need to be reconstructed and the water intakes would also need to be completely replaced because there are places in the Andijan region that use open water sources. Water also reaches the population via waste treatment facilities, so this is a very long process. I am not saying that all these issues will be resolved soon, but that is why we can't even calculate the environmental damage since the term environment has a very broad meaning. First of all there is fauna and flora, the plant world, etc. That is

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why our goal was to implement priority measures to protect the population, and that is a long-term prospect; it will take work, so our group thinks that it's imperative to bring in aid and all the banks that could assist in this regard. This is more or less like Chernobyl; yes, it can be described as such. This problem still remains unresolved in Chernobyl, and this especially impacts people's health. We envisage an analogous occurrence in this situation, which is why our group tried to identify the priority measures that would not worsen the environment and people's health down the road. So, what I am inferring by environment is that it is on a global scale, and is a very long, protracted process.

Question: When you looked at the longer term affects, did you have an opportunity to address the livelihoods of the individuals who are involved so they are not dependent upon the government or the donor community, but they have some means of income? What could be done to stimulate employment opportunities for them?

Answer: In this situation, as you know, the Central Asian region is densely populated and most of the population in our republic as well as in Uzbekistan is poor. So the difficulty is for them to be able to get out of the situation by themselves, autonomously. With respect to government assistance, the government also has its criteria: what aid should be given under what natural disaster circumstances to a family or a citizen, and how much? These criteria have been set in all our countries which is why, if you compare living standards, there will be a lot of difficulties because the region has a very large population whose budget, as I stated, won't enable them to manage by themselves.

Question: Thank you for your presentation. As somebody who drinks the water that would actually be affected by this, I am concerned about this issue. One thing I'd like to point out is that since an accident or a disaster in this area would actually go through the Ferghana Valley and affect what's already a politically sensitive area, the larger repercussions of this accident to the stability of this area could be great; but I would be interested if you could just briefly describe the present efforts. I know that the European Union has given some assistance to efforts dealing with the situation in Mailuu Suu, and I would like you to just describe briefly what present efforts are being made to contain a potential disaster.

Answer: This will have an impact politically, of course, since neither the Kyrgyz nor the Uzbek side is at fault, and the public knows that this waste

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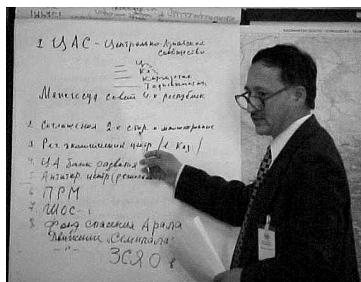
is a product of the former Soviet Union. There will be a backlash. That is why we are currently working with the Uzbeks on this. We have preliminary agreements and treaties. We need to take the first step ourselves. Evidently we are starting with that. That is, we are already using the resources we have for that. The Uzbeks are also doing their part to rehabilitate the tailing dumps; and down the line we have an international agreement with the Russians, who want specifically to help to rehabilitate the tailing dumps. The mission's preliminary estimate is that the work, to bring all 23 tailing dumps into compliance, will cost approximately \$14,000,000. That is why our actions, the actions of our country and our president, aim specifically to attract donors. When the Central Asian countries' presidents meet, and this is a priority, this issue is examined in a political light. It is, therefore, always on the agenda. This is a problem not just for our country, which is why we have brought this matter to your attention. Further, it is important that the information gets out there, so that people know what the situation is. There is a real hazard here.

Workgroup #3: Regional Planning

Introduction:

The third workshop group was asked to take a step back from the immediate disaster scenarios presented to the other workshop groups and to address regional planning for consequence management and cooperative response.

The Central Asia and Caspian Basin region contains numerous environmental security challenges. In order to allocate available regional resources to address these environmental challenges, the challenges should be ranked or evaluated by priority.



Workgroup #3 was provided the following requirements:

- Review the Mailuu Suu and the Lake Sarez scenarios.
- List other potential natural and man-made environmental disasters in the region.
- Prioritize events by regional impact and likelihood of occurrence.
- Identify existing cooperative arrangements, organizational structures, compacts, or partnerships that are the basis for regional environmental planning cooperation.
- Outline the process and infrastructure required for regional consequence management planning and cooperative response.

Discussion presented by: Professor Shavkat Arifkhanov, Uzbekistan

Esteemed ladies and gentlemen. My name is Arifkhanov. I am from Uzbekistan and I have been accorded the great honor of reporting on the results of our exercise. First of all, on behalf of our Group 3, I would like to

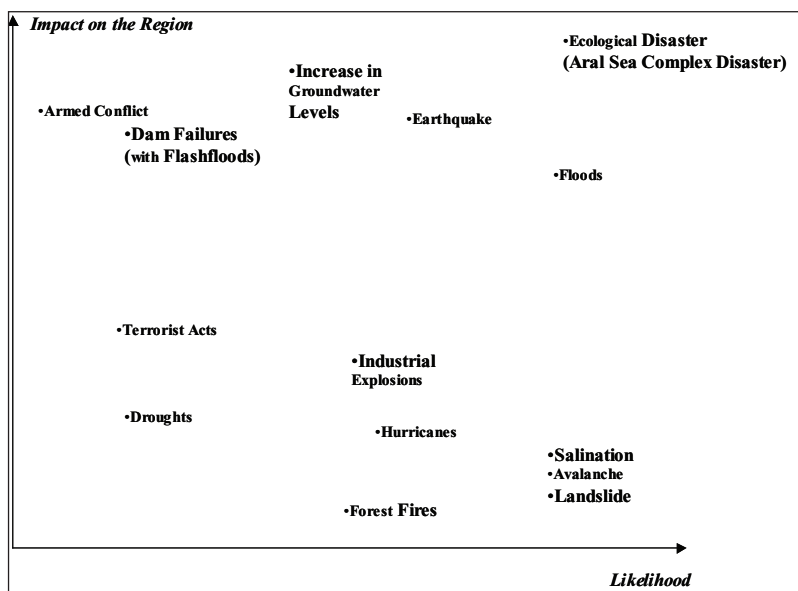
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thank Mr. Krajic, the seminar leader, for organizing our work so efficiently, and also to thank the experts.

When we discussed regional planning, our group considered the likelihood of various emergency situations in the Central Asian region and our lively discussion came to the following conclusions.

First of all, we began with an assessment of the situation in the Central Asian region and identified priorities. Secondly, we listed the main ministries and departments responsible for coordinating liquidation of the aftermath of those phenomena. Thirdly, we highlighted the existing laws and regulatory instruments for working effectively with those organizations. Fourthly, we showed what plans and measures are in place in the event of an emergency situation. Finally, we identified the problems and shortcomings of the existing regional planning system and came to certain conclusions.

Here is an assessment of the situation. We showed this in a graph. This line is the likelihood of an emergency situation. The vertical line shows the impact, that is, the aftermath of these catastrophes. If you list them in order of priority, we believe the main one is the Aral tragedy. We had a very lively discussion on that, whether or not to consider it an environmental



ASSESSMENT OF POTENTIAL EMERGENCY SITUATIONS IN CENTRAL ASIA

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catastrophe. The group concluded that the Aral tragedy is an environmental catastrophe in that it affects not only the Central Asian region but goes beyond the region; therefore, its likelihood and impact are greatest.

Next is an earthquake; then we have dam collapse, floods, and military conflicts, a very small, insignificant probability, but the impact and the consequences could be enormous.

These are military conflicts. We emphasize that they primarily involve external conflicts, that is, there is virtually no likelihood of one in the Central Asian region.

Next are terrorist acts. They are also dangerous and a threat to the Central Asian region.

There could be industrial explosions at plants, chemical plants, factories, etc.

Avalanches. Soil salinization. Forest fires.

That is the order of priority in which we listed all potential emergency situations.

The next issue was to update the list of ministries and departments and organizations in our regions. These are, first and foremost, organizations such as the Ministries of Emergency Situations in Uzbekistan and Tajikistan, the Emergency Situations Agency in Kazakhstan, and the Ministry of the Ecology and Emergency Situations in Kyrgyzstan. The parliaments of the republics have environmental protection committees. There are special, separate, environmental protection ministries and committees at the ministerial and departmental level.

All the republics have laws on national security, meaning the concept, the concept strategy of national security, a law on defense, a law on emergency situations, a law on the environment, a law on civil defense, that is, the basic laws that facilitate the successful implementation of these plan activities.

There is a plan to protect the public in the event of an earthquake, flood, and so on.

The next issue relates to agreements, organizations, and communities within the Central Asian region.

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The first is the Central Asian Community (CAC), which includes four republics: Uzbekistan, Kazakhstan, Kyrgyzstan, and Tajikistan. There is an intergovernmental council in the four-republic CAC that coordinates and manages, including processes related to emergency situations. There are bilateral agreements between individual republics. For example, Uzbekistan-Kazakhstan, or Kazakhstan-Kyrgyzstan, or Tajikistan-Uzbekistan, and so on. There are multilateral agreements between three or more countries. Kazakhstan has a Regional Economic Center in Almaty. The CAC has a Central Asian Development Bank. There is an anti-terrorist center within CIS, but this one is regional and also between the four republics. There is a Partnership for Peace agreement between the four republics, and, correspondingly, NATO. There is also an organization, the so-called Shanghai Cooperation Group (SCG), which includes Russia and China as well as the four republics. It consists of six countries. The Aral Sea Salvation Fund is such a fund and it does a lot of work. There is the Semipalatinsk Movement to declare Central Asia a nuclear-free zone.

Naturally there are also shortcomings. These include lack of harmonization of legislation and regulatory instruments within the Central Asian republics and no clear regional response plans for several emergency situations.

Finally, we reached the following conclusions.

The Central Asian region has its problems and they are substantial. There are organizations to deal with those problems. There are also difficulties and unresolved problems that naturally require the assistance of the world community, international organizations, non-governmental organizations, and donors. The United States Central Command assumed responsibility for Central Asia in 1998. This, therefore, necessitates close coordination within the United States Central Command as well and within non-governmental organizations.

We are also making several recommendations to improve the planning of our work, drawing lessons from this conference, which has had very interesting presentations and where, accordingly, our colleagues made suggestions and recommendations and drew certain conclusions.

First of all, there is a need for permanent emergency response groups, a close link between civilians and the military, which was already mentioned here, cooperation and partnership with world powers, and cooperation and

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deeper cooperation within the Central Asian region itself; coordination of the actions of governments and other services, including as I underscored earlier, at the interregional and intergovernmental level; resolution of organizational and legal issues and regional cooperation mechanisms, that is, to create and improve cooperation mechanisms. Short-, mid-, and long-term entry and exit strategies are needed for a crisis.

To this end we propose, as Group 1 already raised this issue, creating a regional emergency management center. The need for one is dictated by time because research will be a focus there; it will coordinate the various services and, most importantly, it will develop a strategy, a strategy to plan emergency situation matters.

Question: In Group 2 we discussed the necessity of the region acting as a whole and coherently in approaching donors to get the magnitude of the funds that are needed to address some of the issues. I was wondering if you had an opinion on whether the environmental security issues in general are maybe the best vehicle for having the region act as a region?

Answer: Naturally I already stated that there are problems. There are global problems that cannot be resolved without international organizations, whether financial entities or donors. Because, let us take even the Aral tragedy. It affects many countries. I think that the world community is not paying enough attention to this problem even though conferences are being held and various funds working in Central Asia are providing great assistance. Rather it seems to me that underestimation, still to some extent, or maybe ignorance of the problem, unfortunately, means that it is somehow pushed aside.

It is not coincidental that we placed this problem at the very top. I spoke about creating a center. One can, in principle, be created within the CAC, as Group 1 said, the Central Asian Economic Community, to recruit not only experts and scientists from Central Asia, but also to recruit experts and scientists from abroad. This will naturally require the assistance of both donors and international organizations.

Question: The speaker largely answered my question. I just wanted an elaboration on what you thought needed to be done on the Aral Sea. Since it was your top priority, if funding were discretionary and you could choose, against which priority you would allocate assistance, would you indeed

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keep the Aral sea at the top, or did you put it at the top because of the fact that it had global implications?

Answer: First of all, that problem, as I stated, has global consequences because the near-Aral genofund will perish. That region has diseases and the highest infant mortality rate. Problems with drinking water. However the main problem is salinization, and sandstorms spread not only throughout Central Asia, but also beyond, killing the soil and so on.

With respect to the question, if money were allocated, what would it be spent on? When the Soviet Union existed, our Central Asian region unfortunately became a one-crop economy, mainly cotton, and that requires a large amount of water—for irrigation and so on. The matter of rechanneling Siberian rivers was raised. Remember, there was such a project to rechannel Siberian rivers to the Aral Sea. Conferences were held; that was about twenty years ago, and so on. But that is no more because the Soviet Union is no more, so I didn't bring up this issue.

If we had the resources, if there was an agreement with the world community, if Russia and other countries, European countries, agreed to implement this project to rechannel Siberian rivers to Central Asia, this issue is one scenario. The next issue, the main one, of course, is that it is impossible to save the Aral Sea without rechanneling. But rechanneling is not feasible so most funds should evidently go toward improving the Aral Basin itself, improving the quality of life, medical care, drinking water. We at least need to preserve the Aral Sea at this level to prevent the process from worsening, because the death of an entire sea is a terrible thing.

Participant Comment: I have, maybe, a comment that relates to all three groups and especially to the last one. If you are talking about possible frameworks for cooperation, we should be aware that currently existing political frameworks, like the Shanghai Cooperation Group, might not be acceptable to all the countries of the region. Therefore, probably a framework that would be more technical in scope and very precise in mechanisms, in tasks, in terms of reference might be more acceptable if the aim is really to bring all the countries of the region, plus, the neighboring countries that might be of interest or affected by certain issues.

One such framework that we have been trying to get with the UNHCR is to establish a regional center for migration and refugee issues in Bishkek, through which we try to bring the technical-level government structures to

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cooperate on very concrete border management and migration management issues; and it has been very successful again, unfortunately, primarily between Kazakhstan, Kyrgyzstan, and Tajikistan. We have been trying and are still trying to have better, closer cooperation between Uzbekistan and Turkmenistan because the issues are defined at the very technical level and the capacity-building level.

Some of the issues on top of that directly relate, in fact, to the things that we have been discussing here; any of the disasters that might strike are, by their nature, a regional level disaster, so the migration movements are going to be at the regional scale. All the cross-border issues related to that would call for a mechanism for exchange of information, for harmonization of procedures, and for better coordination.

APPENDIX A - Participants

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APPENDIX B - Conference Agenda

Meeting Objectives. Identify National Resources Available for Regional Disaster Response and Consequence Management. Enhance Military Support to Civil Authorities. Examine opportunities for Multi-lateral and Inter-Agency Cooperation (to include NGO/IOs). Promote Information Exchange and Management Tools. Strengthen Working Relationships Between Regional Government Agencies.

Day 0 (2 April 2002)

16:00 **Panel Moderator and Panel Members Meeting:**
Plenary Room, AFRC Chiemsee (Prof. B.F. Griffard, Center
for Strategic Leadership, U.S. Army War College)

19:30 **Icebreaker Social**

Day 1 (3 April 2002)

08:45 **Administrative Remarks**

09:00 **Welcome**

- Marshall Center Welcome: *MGen Michael J. McCarthy, USAF Retired, U.S. Deputy Director, George C. Marshall European Center for Security Studies*
- Conference Purpose & Scope: *Lieutenant General Michael P. DeLong, Deputy Commander-in-Chief, US Central Command*
- Military Support in Disaster Management: *Honorable Raymond F. DuBois, Deputy Under Secretary of Defense (Installations and Environment)*
- Military Cooperation & Security: *Professor Kent Hughes Butts, Director, National Security Issues, Center for Strategic Leadership, U.S. Army War College*

09:40 **BREAK**

Partnering for Environmental Security Cooperation in
Central Asia and the Caspian Basin

10:00

**Panel I: Environmental Security Cooperation:
Accomplishments, Objectives, & the “Road Ahead”
(Moderator: RADM John A. Jackson, Deputy J5,
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- *Environmental Security Initiatives in Central Asia* (Dr. Nina Rosenberg, Lawrence Livermore National Laboratory)
- *Use of International Donors and NGOs to Help Resolve Environmental Issues in Central Asia* (Dr. Hans P. Peterson, International Consultant)
- *Information Exchange Tools (PIMS & DENIX)* (Ms. Jackie Hux Cain)

11:45

Group Photo

12:00

LUNCH

13:00

Panel 2: *Regional Appreciation* (Moderator: Dr. Roger Kangas, G.C. Marshall Center)

- Regional Representatives address
- *Regional Environmental Threats And Past Environmental Events*
- *Existing National & Regional Mechanisms that Enhance Disaster Response Planning*
- *Regional Initiatives and Opportunities*
- COL Adilkhan K. Kuanyshhev, Ministry of Defense, Kazakhstan
- Mr. Bolotobek Aidaraliev, Ministry of Ecology and Emergency Situations, Kyrgyz Republic
- COL Shogumbek Azizbekov, Ministry of Emergency Situations and Civil Defense, Tajikistan
- Professor Shavat Arifkhanov, Institute of Strategic and Interregional Studies, Joint Staff of the Armed Forces, Uzbekistan

15:00

BREAK

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- 15:15** **Panel 3: *Multilateral Approaches to Regional Disaster Response* (Moderator: Dr. Kent Hughes Butts, Center for Strategic Leadership, U.S. Army War College)**
- *Multilateral Approaches to Regional Disaster Response* (RADM Gaidis A. Zeibots, Latvia)
 - *Multilateral Solutions: Working with IOs & NGOs* (Dr. Neil Joyce, InterAction)
 - *Regional Response to Disaster Induced Migration* (Mr. Zoran Milovic, Head of Office, Ashgabad, Turkmenistan, International Organization for Migration)
- 1700 – 18:00** **Information Exchange & Management Tools Group I: *DENIX Demonstration* (Ms. Jackie Hux Cain)**
- Day 2 (4 April 2002)**
- 08:30** **Azimuth Setting**
- 08:35** ***Crisis Management Exercise (CMX) – Introduction, Objectives, & Deliverables* (Prof. B.F. Griffard, Center for Strategic Leadership, USAWC)**
- 09:10** **BREAK**
- 09:30** **Panel 4: *International Disaster Response Resources* (Moderator: Dr. Timur Kocaoglu, Coordinator for Turkic & Central Asian Studies, Koc University, Turkey)**
- *International Players, Capabilities, & Requirements* (Mr. Paul Giannone, Deputy Director, Emergency Group, CARE USA)
 - *Disaster Response Planning Processes and Procedures* (Mr. Wolfgang Krajic, former Senior Planning Officer, Euro-Atlantic Disaster Response Coordination Center [EADRCC])
 - *Military Environmental Stewardship & Disaster Response Planning Assistance* (COL Jerry T. Mohr, US Central Command Engineer)
- 11:30** **LUNCH**

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- 13:00** **Panel 5: *U.S. Interagency Processes Supporting Disaster Response* (Moderator: Mr. Curtis Bowling, Assistant Deputy Under Secretary of Defense for Safety and Environmental Health)**
- *Regional Consequence Management Planning: The Three Mile Island Experience* (Mr. Norm Smith, Director, Pennsylvania Emergency Management Agency)
 - *Regional Consequence Management Planning: A Theater Perspective* (Mr. Ronald P. Rook, USCENTCOM)
 - *Short Term Disaster Response Planning Issues* (Mr. Michael J. Korin, Humanitarian Assistance Program Manager, USAID)
- 15:00** **BREAK**
- 15:15** ***CMX- Workshop 2: Regional Plan Development Workshop* (Prof. B.F. Griffard, Center for Strategic Leadership, USAWC)**
- 17:00 – 17:45** **Information Exchange & Management Tools Group II: *DENIX Demonstration* (Ms. Jackie Hux Cain)**
- 18:30** **Off-Site Dinner**
- Day 3 (5 April 2002)**
- 08:30** **Azimuth Setting**
- 08:35** ***CMX – Workshop 3: Regional Plan Development Workshop* (Prof. B.F. Griffard, Center for Strategic Leadership, USAWC)**
- (08:45 – 11:00 Environmental Security International Advisory Panel)***
- 11:30** **LUNCH**
- 12:30** **Panel 6: *CMX Brief backs & Facilitated Discussion***
- 14:30** ***Conference Summary; “The Road Ahead”* (USCENTCOM)**
- 14:45** ***Closing Remarks***
- 15:00** ***Conference Closes***

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APPENDIX C - Glossary

AOR	area of responsibility
APEC	Asia Pacific Economic Corporation
ASEAN	Association of Southeast Asian Nations
CBIRF	Chemical or Biological Incident Response Force
CBRNE	chemical, biological, radiological, nuclear and high explosive yield
CDI	Cooperative Defense Initiative
Central Asian States	Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan
Central Asian Community	An intergovernmental council of Kazakhstan, Kyrgyzstan, Tajikistan, and Uzbekistan
CENTCOM	United States Central Command
CGIAR	Consultative Group on International Agricultural Development
CIMIC	civil military cooperation
CINC	Commander in Chief
CIS	Commonwealth of Independent States
CM	consequence management
CMOC	Civil-Military Operations Center
CNN	Cable News Network
DART	Disaster Assistance Support Team
DCO	Defense Coordinating Officer

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DENIX	Defense Environmental Network and Information Exchange
DFID	Department for International Development (UK)
DOD (also DoD)	Department of Defense
DOE	Department of Energy
DOJ	Department of Justice
DOMS	Directorate for Military Support
DOS	Department of State
DOT	Department of Transportation
DTRA	Defense Threat Reduction Agency
EBS	Environmental Baseline Survey
ECHO	European Commission Humanitarian Aid Office
ECOWA	Economic Council of West Africa
EPA	Environmental Protection Agency
EU	European Union
FAA	Federal Aviation Administration
FAO	United Nations Food and Agriculture Organization
FBI	Federal Bureau of Investigation
FCO	Federal Coordinating Officer
FEMA	Federal Emergency Management Agency
FEST	Foreign Emergency Support Team
FGS	Final Governing Standards
HAZMAT	hazardous material
HHS	Department of Health and Human Services
HN	host nation

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ICRC	International Committee of the Red Cross
IFRC	International Federation of the Red Cross/Red Crescent Societies
IMC	International Medical Corps
IO	international organization
ISTC	International Science and Technology Center
IWER	International Workshop on Environmental Response
LFA	Lead Federal Agency
LLNL	Lawrence Livermore National Laboratory
MAST	Military Assistance to Safety and Traffic
MEF	Marine Expeditionary Force
MSCA	Military Support to Civilian Authorities
NATO	North Atlantic Treaty Organization
NAVCENT	United States Naval Forces, Central Command
NBC	nuclear-biological-chemical
NGO	non-governmental organization
NIPC	National Infrastructure Protection Center
OEBGD	Overseas Environmental Baseline Guidance Document
OEF	Operation ENDURING FREEDOM
OFDA	Office of Foreign Disaster Assistance (USAID)
OSHA	Occupational Safety and Health Administration
PCB	polychlorinated biphenyl
PIMS	Partnership for Peace Information Management System
PVO	private volunteer organization

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ROWPU	reverse osmosis water purification unit
SCG	Shanghai Cooperative Group
STARS	Science and Technology to Advance Regional Security
TMI	Three Mile Island nuclear plant, Pennsylvania, USA
USAID	United States Agency for International Development
USCENTCOM	United States Central Command
USCG	United States Coast Guard
USDA	United States Department of Agriculture
UN	United Nations
UNDP	United Nations Development Program
UNHCR	United Nations High Commissioner for Refugees
UNICEF	United Nations Children's Fund
UNOCHA	United Nations Office for the Coordination of Humanitarian Affairs
WFP	World Food Program
WHO	World Health Organization
WMD	weapons of mass destruction

